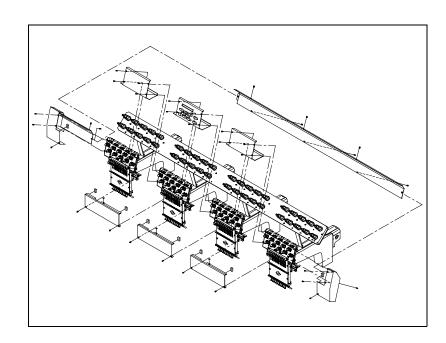
Illustrated Parts Manual for the EMC 10/4 embroidery peripheral



- A Complete Illustrated Parts Manual
- Advanced Trimmer System
- Under Thread Control



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INTRODUCTION

Model and Serial Numbers

The contents of this manual must be understood by the user to ensure that the correct part for the correct machine model is selected.

Some equipment built by Melco containing the same "common" name may be identified by more than one model part number. In some cases, a different serial number sequence is also prevalent between two models of the same machine.

There are two models of the Melco EMC 10/4 Sewing Peripherals. Each model has a domestic (120v) and an international (220v) version. This manual represents all four models of the product. The EMC 10/4 (without trimmers) is identified as model part numbers 006887-01 (120v) and 006887-02 (220v). The EMC 10/4T (with trimmers) is identified as model part numbers 006790-01 (120v) and 006790-02 (220v).

Determine the model number of your machine before you use this manual to order parts. The machine MODEL number is located on the label that is placed on the front of the frame, under the table and to right side of the machine.

Remember, although many parts are identical between the various embroidery peripheral models, this manual should only be used for identifying and ordering parts for the machines described above.

How To Use This Manual

The manual is divided into several sections, each containing a set of parts most common to each other, or to a function of the machine.

FIGURES

Accompanying each section is a figure showing the general area of the machine that is represented in that section. Parts are identified with letters and numbers in these figures. Letters contained in circles generally are used to refer the user to a different figure or section of the manual that identifies the assembly with more detail. Part numbers and part identifications of the numbers inside circles are found on the pages adjacent to the figure.

ITEM NUMBERS

All the numbers in circles on a diagram are listed in the first column of the parts listing accompanying that figure. Each item number in each figure is identified independently in hopes to help prevent any confusion that may occur by trying to "cross-reference" part numbers.

PART NUMBERS

The Melco part number is found in the second column of the parts list, directly in line with each item number from the first column.

PART DESCRIPTIONS

Each part listed has a descriptive name in the third column of the parts listing. Hardware (such as screws, washers, etc.) are described by size in order to help the user to identify common hardware items that can be obtained by local sources if desired.

CAUTION: When purchasing hardware from a source other than Melco, it is the user's responsibility to ensure that such hardware is of sufficient quality and grade to meet or exceed Melco's original equipment hardware. Melco assumes no liability for the use of inadequate hardware that was purchased by and/or installed by other than an authorized Melco factory representative.

Special Parts Handling

If care is not taken in handling certain parts of the sewing head, there is a high probability that the sewing head will not function properly or the parts will fail prematurely.

These parts are to have special handling considerations from the vendor, through quality control inspection, into spare parts inventories, then on to packaging for shipping, and finally to installation.

Handling of these parts (and for that matter all parts), is not limited to the considerations below. Please use common sense, good judgement, and accepted handling practices in handling all parts. If you have any questions or concerns, please call your area service department.

General Considerations

- * Painted and coated surfaces need to be protected from dirt, other foreign matter, nicks, and scratches.
- * Non-painted and coated surfaces must not be touched by the human hand, to prevent corrosive body oils, dirt, and other foreign matter from contaminating the surfaces.
- * Protect all bearings, bushings, cams, rails, gears, rollers, needle bars, pins, studs, connecting rods, guide shafts, and other surface finishes from dirt, other foreign matter, marring, scratches, and nicks, etc.
- * Bearing surfaces and shaft bore surfaces need to be thoroughly cleaned and mating parts oiled before assembly.

Printed Circuit Boards

Printed circuit boards are packaged and shipped in anti static bags. The components of the printed circuit boards are sensitive to static electrical discharges. The use of standard anti static precautions is recommended.

Special Packaging

Several parts are packaged in specially sealed packages. These packages keep lubricant on the parts and protect them from contamination during shipment. To install these parts, clean your hands and place a small amount of sewing machine oil on your fingers to kept the integrity of the part intact.

Machine Assemblies (Covers) (1 of 2)

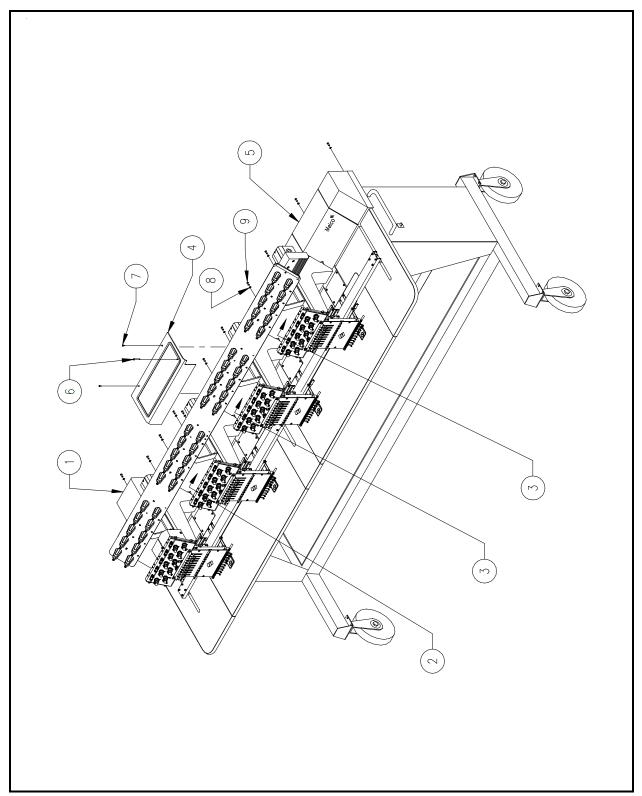


Figure 1

Machine Assemblies (Covers) (1 of 2)

Reference Figure 1

Item	Part	Item	
No.	Number	Description	Comments
1	003344-21	Cover, #5, Grey	
2	000394-21	Cover, #4, Grey	
3	000393-21	Cover, #2 & #3, Grey	
4	006891-01	Cover, Grabber Motor	
5	006796-01	Cover, #1, 4HD	
6	004262-30	Screw, Pan Head Phillips, M4 x 0.7 x 30 Lg	
7	003197-01	Screw, Thread Form, #8 x 1/2"	
8	690034-38	Washer, Flat, #8	
9	672982-08	Screw, Pan Head Phillips, 8-32 x 1/2"	

Machine Assemblies (Covers) (2 of 2)

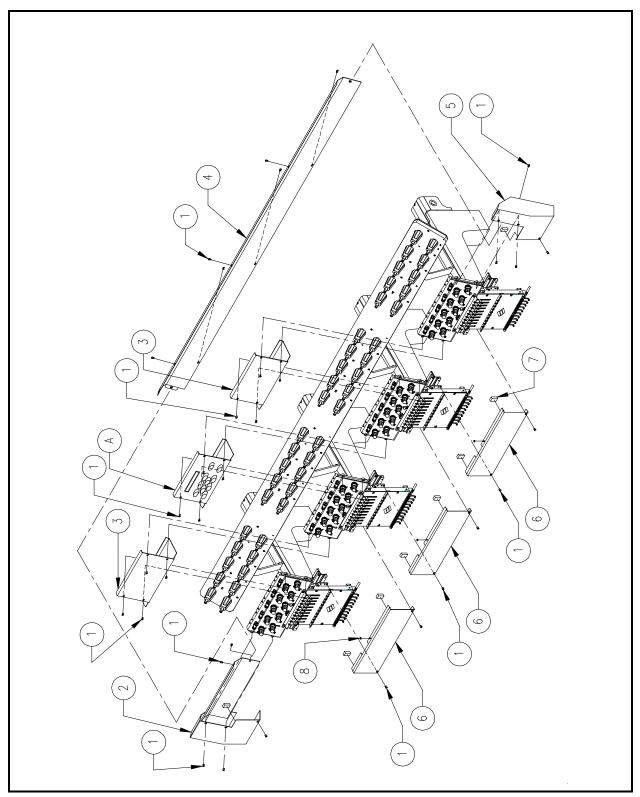


Figure 2

Machine Assemblies (Covers) (2 of 2)

Reference Figure 2

ltem	Part	Item	
No.	Number	Description	Comments
А		Assembly, Keyboard	See Page 3-1
1	003509-06	Screw, Button Head Cap, M4 x 0.7 x 6 Leg	g
2	006812-01	Cover, Tensioner Bracket, Left	
3	006456-01	Cover, Spacer, Tensioner Bracket	
4	006530-01	Cover, Rear, Tensioner	
5	007094-01	Cover, Tensioner Bracket, Right	
6	006458-01	Cover, Spacer, Lower	
7	006802-01	Damper, Spacer Cover	
8	343109-01	Grommet, Rubber	

Keyboard Cover Assembly

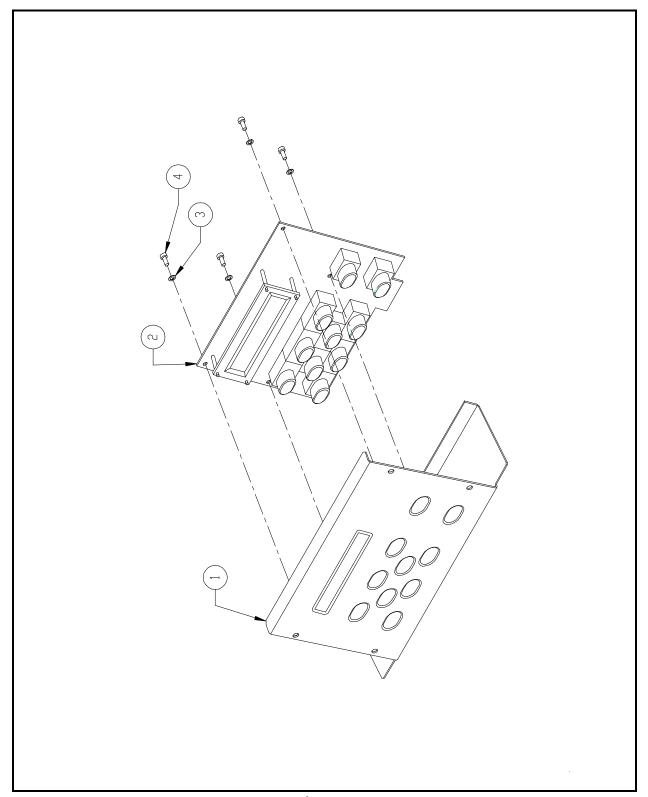


Figure 3

Keyboard Cover Assembly

Reference Figure 3

Item No.	Part Number	Item Description	Comments
1	006457-01	Cover, Keyboard	
2		PCB, Keyboard	
3	690364-38	Washer, Flat, Nylon, #8	
4	671855-12	Screw, Pan Head Slotted, M3 x 0.5 x 12 Lg)

Machine Assemblies (Tables)

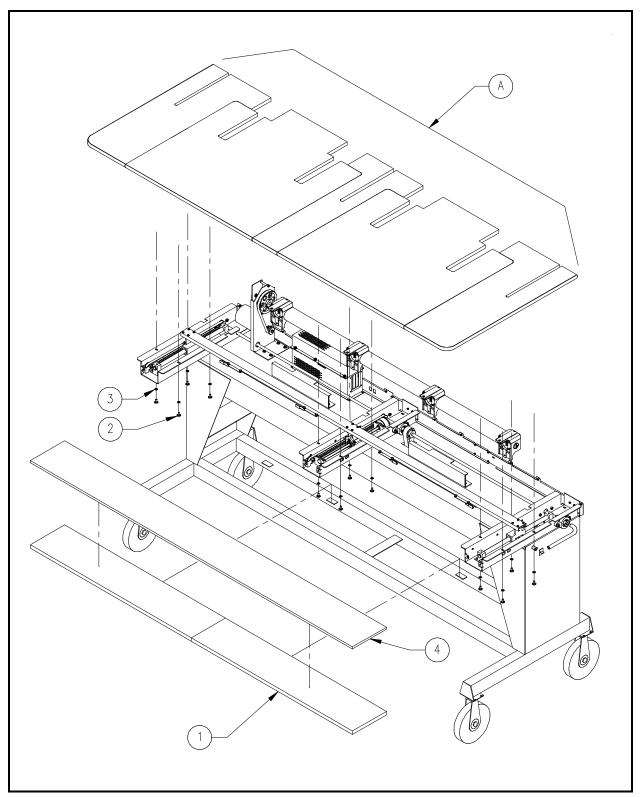


Figure 4

Machine Assemblies (Tables)

Reference Figure 4

Item	Part	Item	Comments
No.	Number	Description	
A		Table Top Assembly	See Page 5-1
1	006848-01	Shelf, Half, Frame, Black	
2	672927-33	Screw, Thumb, 10-32 x 1/2"	
3	690811-03	Washer, Internal Star, #10	
4	006863-01	Mat, Rubber	

Table Top Assembly

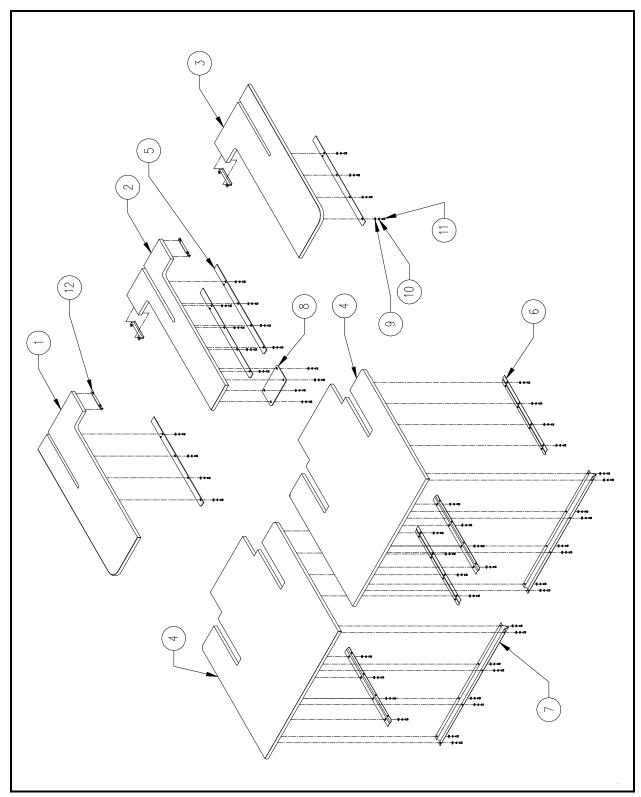


Figure 5

Table Top Assembly

Reference Figure 5

Item No.	Part Number	Item Description	Comments
1	006820-21	Table Top, Left, Front	
2	006822-21	Table Top, Center, Drive	
3	006821-21	Table Top, Right, Front	
4	006819-21	Insert, Table	
5	006840-01	Guide, Table, Insert	
6	006839-01	Retainer, Table Insert	
7	005340-01	Stiffener, Insert, Table Top	
8	006841-01	Guide, Table Insert	
9	690034-03	Washer, Flat, #10	
10	690033-03	Washer, Lock, Split, #10	
11	670038-08	Screw, Socket Head Cap, 10-32 x 1/2"	
12	006029-01	Hanger, Table Top	(See Pages 8-1 & 8-2)

Machine Assemblies (General) (1 of 2)

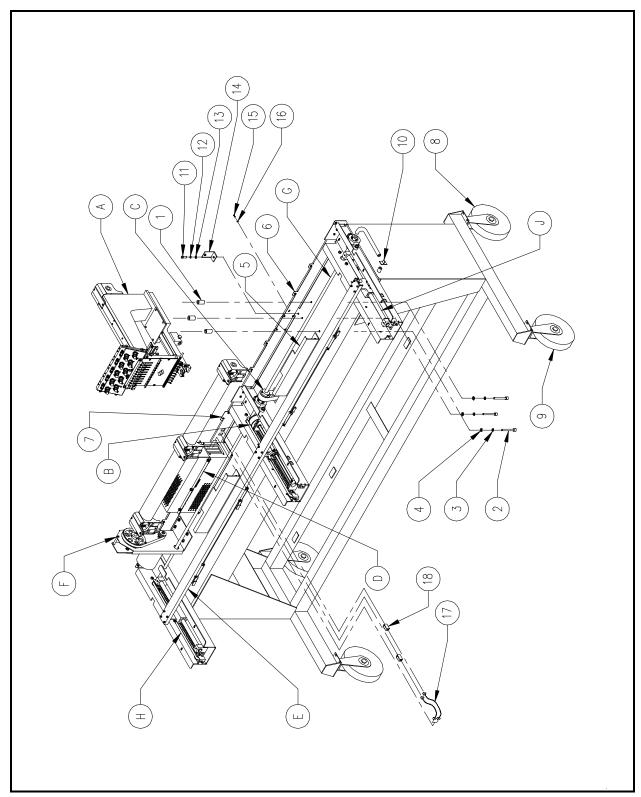


Figure 6

Machine Assemblies (General) (1 of 2)

Reference Figure 6

Item	Part	Item	_
No.	Number	Description	Comments
А		Sewing Head Assemblies	See Pages 8-1 & 9-1
В		X-Drive Motor Assembly	See Page 24-1
C		Y-Drive Motor Assembly	See Page 25-1
D		Electronics Box Assembly	See Page 26-1
Е		X-Beam Assembly	See Page 28-1
F		Z-Drive Assemblies	See Pages 31-1 & 32-1
G		Y-Drive Assembly	See Page 35-1
Н		Left Y-Carriage Assembly	See Page 36-1
J		Right Y-Carriage Assembly	See Page 38-1
1	000454-01	Spacer, Frame, Large	
2	671639-08	Screw, Socket Head Cap, M8 x 60 Lg	
3	690427-08	Washer, Lock, Split, M8	
4	690439-08	Washer, Flat, M8	
5	000379-21	Support, Electronic Cover, Front	
6	000438-21	Bracket, Cover, Right Rear	
7	003249-21	Bracket, Cover, Left Rear	
8	344090-01	Castor, Swivel, ^w /Brake	
9	344090-02	Castor, Swivel, ^{wo} /Brake	
10	342293-01	Switch, Operator, Rocker, Red	
11	670035-12	Screw, Socket Head Cap, 1/4-20 x 3/4"	
12	690033-04	Washer, Lock, Split, 1/4"	
13	690034-04	Washer, Flat, 1/4"	
14	000453-01	Support, Rear Panel	
15	670267-06	Screw, Button Head Cap, 8-32 x 3/8"	
16	690034-38	Washer, Flat, #8	
17	345068-11	Cable, Data, 5 Conductor ^W /Drain, 8" Lg	
18	000434-01	Coupler, Inline, 6-Position	

Machine Assemblies (General) (2 of 2)

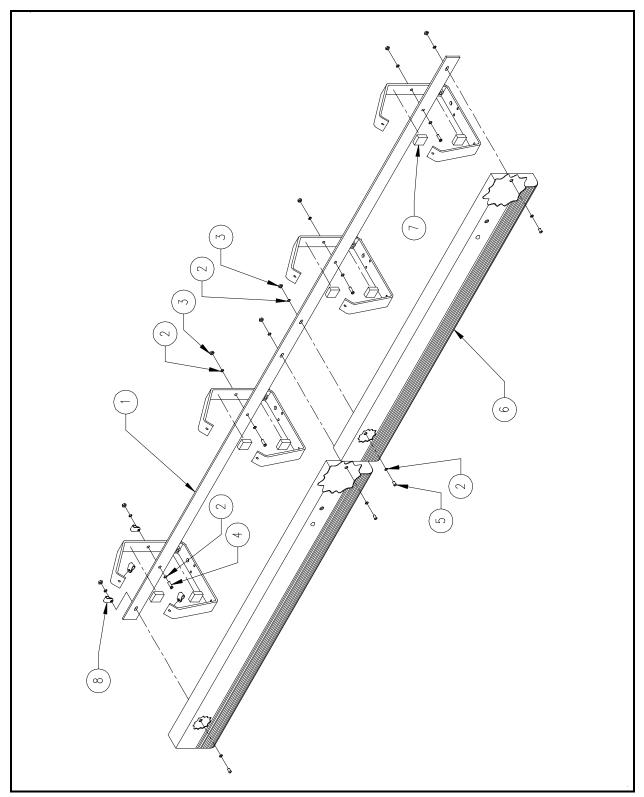


Figure 7

Machine Assemblies (General) (2 of 2)

Reference Figure 7

Item No.	Part Number	Item Description	Comments
1	006799-01	Bracket, Support, Light	
2	690034-03	Washer, Flat, #10	
3	680043-03	Nut, Lock, 10-32	
4	670812-12	Screw, Flat Head Socket, 10-32 x 3/4"	
5	670147-10	Screw, Button Head Cap, 10-32 x 5/8"	
6	007203-01	Light, Fluorescent, 3 Ft., Fixture	
7	007059-01	Bumper, Light	
8	340743-03	1/4" Cable Clamp	

Sewing Head Assemblies (Head 4)

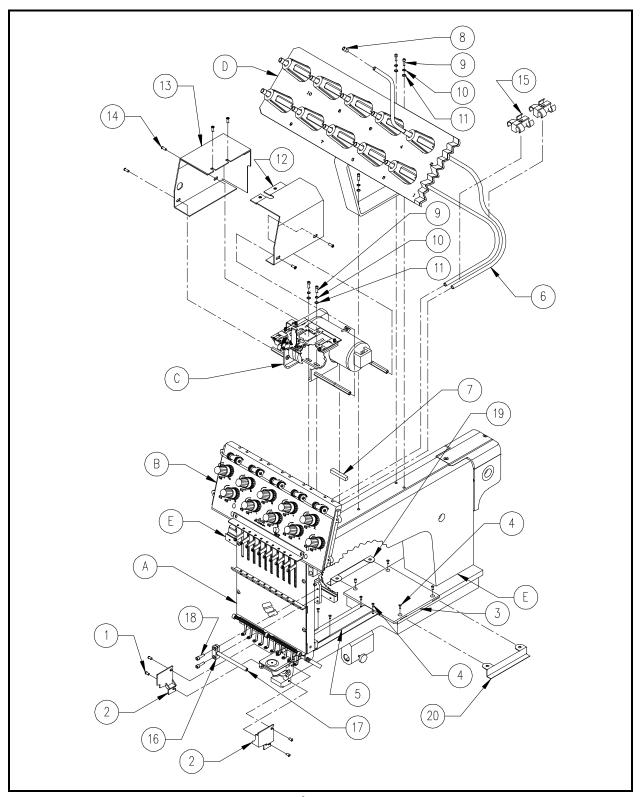


Figure 8

Sewing Head Assemblies (Head 4)

Reference Figure 8

Item No.	Part Number	Item Description	Comments
А		Needle Case Assemblies	See Pages 13-1 & 14-1
В		Thread Tensioner Assembly	See Page 15-1
C		Color Change Assembly	See Page 10-1
D		Thread Tree Assembly	See Page 11-1
Ε		Sewing Head Components	See Pages 16-1 to 18-1
1	003136-06	Screw, Button Head Socket, M3 x 0.5 x 6	5 Lg
2	006529-01	Set, Cover, Rotary Hook	
3	006034-21	Cover, Bed, Rear	
4	003509-06	Screw, Button Head Socket, M4 x 0.7 x 6	5 Lg
5	007526-01	Cover, Bed, Front	
6*	005704-01	Tubing, .125" ID x .187" OD	
7	004779-01	Key, Color Change Mount	
8*	005702-01	Guide, Thread, Thread Tree	
9	672018-12	Screw, Socket Head Cap, M4 x 0.7 x 12 Lg	
10	690427-04	Washer, Lock, Split, M4	
11	690439-04	Washer, Flat, M4	
12	006687-01	Cover, Drive, Color Change, Right	
13	006740-01	Cover, Drive, Color Change, Left	
14	004262-06	Screw, Pan Head Phillips, M4 x 0.7 x 6 Lo	9
15	005707-01	Clip, Tubing	
16	008054-01	Clamp, Needle Case Linkage	
17	006518-01	Shaft, Needle Case Linkage	
18	001922-10	Screw, Socket Head Cap, M3 x 0.5 x 10	Lg
19*	006029-01	Hanger, Table Top	
20*	006029-01	Hanger, Table Top	

*NOTE: Items 6 and 8 should be replaced as a factory built assembly:

006937-01 Tubing, Thread Tree, 24", Assembly

Item 19 is located only on the left side of Heads 2 and 4. Item 20 is located only on the right side of Heads 1 and 3.

Sewing Head Assemblies (Heads 1-3)

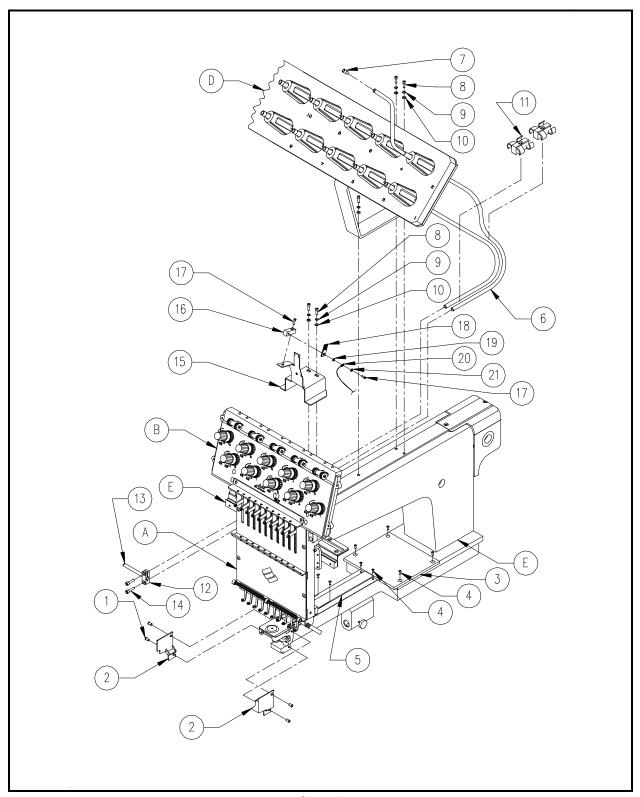


Figure 9

Sewing Head Assemblies (Heads 1-3)

Reference Figure 9

Item	Part	Item	_
No.	Number	Description	Comments
А		Needle Case Assemblies	See Pages 13-1 & 14-1
В		Thread Tensioner Assembly	See Page 15-1
C		Color Change Assembly	See Page 10-1
D		Thread Tree Assembly	See Page 11-1
Е		Sewing Head Components	See Pages 16-1 to 18-1
1	003136-06	Screw, Button Head Socket, M3 x 0.5 x 6	Lg
2	006529-01	Set, Cover, Rotary Hook	
3	006034-21	Cover, Bed, Rear	
4	003509-06	Screw, Button Head Socket, M4 x 0.7 x 6	Lg
5	007526-01	Cover, Bed, Front	
6*	005704-01	Tubing, .125" ID x .187" OD	
7*	005702-01	Guide, Thread, Thread Tree	
8	672018-12	Screw, Socket Head Cap, M4 x 0.7 x 12 L	_g
9	690427-04	Washer, Lock, Split, M4	
10	690439-04	Washer, Flat, M4	
11	005707-01	Clip, Tubing	
12	008054-01	Clamp, Needle Case Linkage	
13	006518-01	Shaft, Needle Case Linkage	
14	001922-10	Screw, Socket Head Cap, M3 x 0.5 x 10 L	-g
15	008067-01	Bracket, Support, Thread Break	
16	008068-01	Bracket, Detect, Thread Break	
17	001922-08	Screw, Socket Head Cap, M3 x 0.5 x 8 Lg	J
18	008069-01	Brush, Contact, Thread Break	
19	690811-34	Washer, Internal Star, #4	
20	006582-01	Harness, Thread Break	
21	690439-03	Washer, Flat, M3	

*NOTE: Items 6 and 7 should be replaced as a factory built assembly:

006937-01 Tubing, Thread Tree, 24", Assembly

Color Change Assembly

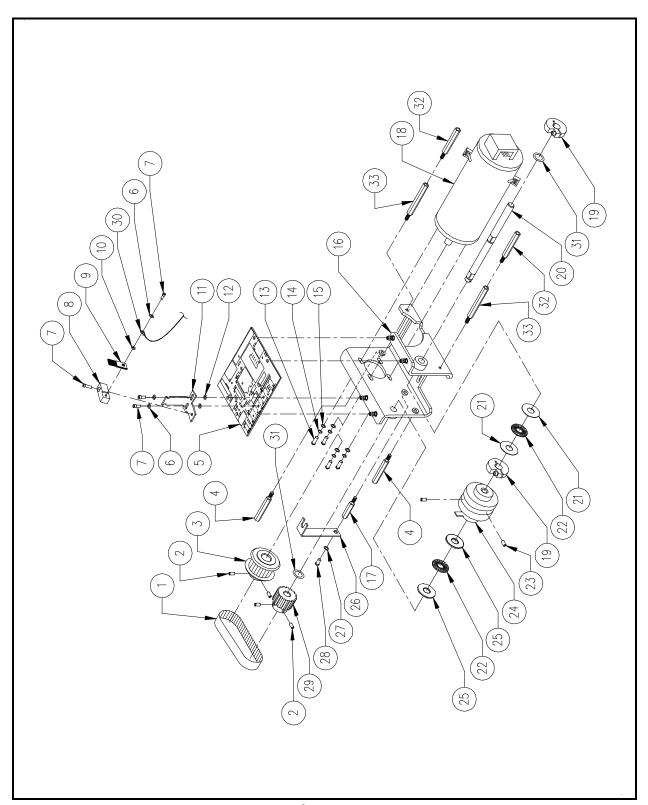


Figure 10

Color Change Assembly

Reference Figure 10

Item No.	Part Number	Item Description	Comments
1	003504-01	Belt, Timing, 39T, 1/5P	
2	001960-04	Screw, Set, Flat Point, M4 x 0.7 x 4 Lg	
3	008059-01	Pulley, Timing, 5.08mmP, 12 Groove	
4	008129-35	Standoff, Hex, M-F, M4 x 0.7 x 35 Lg	
5	006514-01	PCB, Color Change, Assembly	
6	690439-03	Washer, Flat, M3	
7	001922-08	Screw, Socket Head Cap, M3 x 0.5 x 8 Lg	
8	008068-01	Bracket, Detect, Thread Break	
9	008069-01	Brush, Contact, Thread Break	
10	690811-34	Washer, Internal Star, #4	
11	007565-01	Bracket, Mounting, Sensor, Thread Break	
12	007561-11	Washer, Flat, Nylon	
13	670174-08	Screw, Pan Head Phillips, 6-32 x 1/2"	
14	690033-36	Washer, Lock, Split, #6	
15	690034-36	Washer, Flat, #6	
16	006340-01	Housing, Drive, Color Change	
17	008129-22	Standoff, Hex, M-F, M4 x 0.7 x 22 Lg	
18	000465-01	Motor, X-Y Servo	
19	008062-01	Clamp, Split-Hub, 8mm ID	
20	006485-01	Shaft, Cam, Color Change	
21	007574-01	Washer, Thrust, 1.00mm Thick	
22	008061-01	Bearing, Thrust, 8mm	
23	001927-08	Screw, Set, Socket, Flat Point, M5 x 0.8 x	8 Lg
24	008056-01	Cam, Color Change	
25	007573-01	Washer, Thrust, 2.75mm Thick	
26	006782-01	Bracket, Wire Guard	
27	690439-04	Washer, Flat, M4	
28 29	004262-06 008060-01	Screw, Pan Head Phillips, M4 x 0.7 x 6 Lg Pulley, Timing, 5.08mmP, 16 Groove	
30	006582-01	Harness, Thread Break	
31	702876-08	Spacer, Shaft, 5/16" ID x .016" Thick	
32	008129-38	Standoff, Hex, M-F, M4 x 0.7 x 38 Lg	
33	008129-38	Standoff, Hex, M-F, M4 x 0.7 x 38 Lg	
در	000123-40	Jianiaon, πελ, Ινίτι, Ινί4 λ 0.7 λ 40 Lg	

Thread Tree Assembly

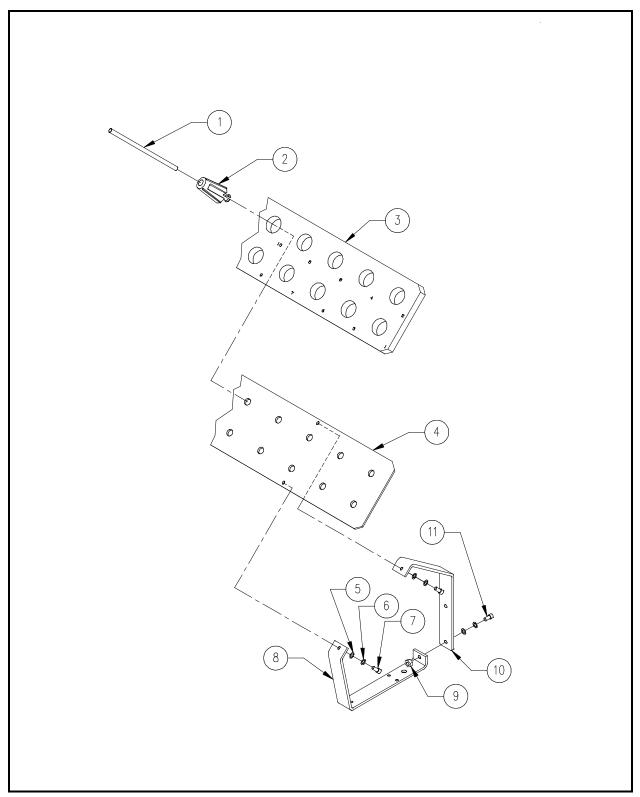


Figure 11

Thread Tree Assembly

Reference Figure 11

Item No.	Part Number	Item Description	Comments
1	005703-01	Tube, Guide, Thread, Thread Tree	
2	005701-01	Seat, Cone, Thread, Thread Tree	
3	006349-01	Pad, Thread Tree	
4	006348-01	Plate, Thread Spool	
5	690034-03	Washer, Flat, #10	
6	690033-03	Washer, Lock, Split, #10	
7	670038-08	Screw, Socket Head Cap, 10-32 x 1/2"	
8	006798-01	Bracket, Front, Support, Thread Tree	
9	680043-03	Nut, Hex, 10-32	
10	006797-01	Bracket, Rear, Support, Thread Tree	
11	670038-12	Screw, Socket Head Cap, 10-32 x 3/4"	

Gearbox Assembly

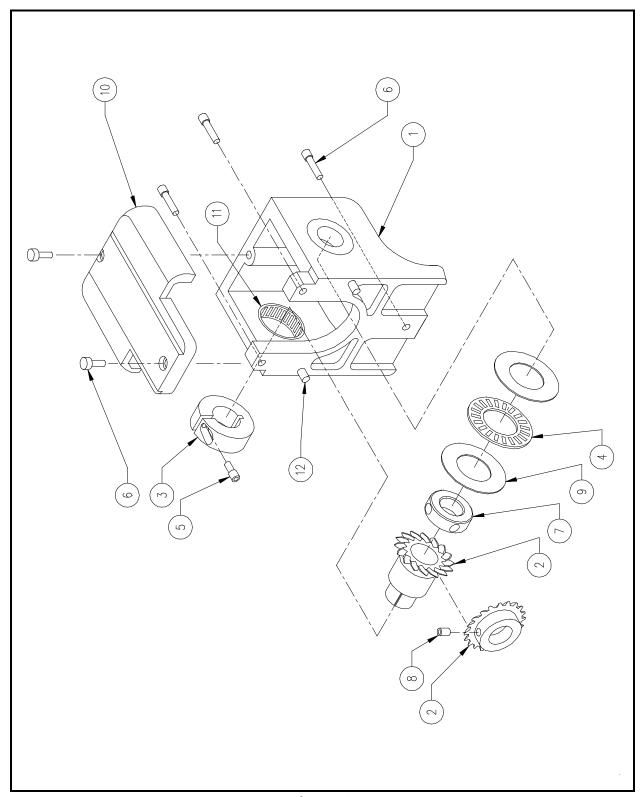


Figure 12

Gearbox Assembly

Reference Figure 12

Item No.	Part Number	Item Description Comments
1*	006043-21	Gear, Case, Assembly, Grey
2*	003195-015	Assembly, Gears, Bevel
3*	002668-01	Collar, Support, Gear
4	004945-01	Bearing, Thrust, 15mm
5	670038-10	Screw, Socket Head Cap, 10-32 x 5/8"
6	672018-16	Screw, Socket Head Cap, M4 x 0.7 x 16 Lg
7	342630-01	Collar, Shaft, 15mm ID
8	001971-06	Screw, Set, Flat Point, M6 UNF x 6 Lg
9	693155-15	Washer, Thrust, 15mm
10	004263-21	Cover, Gearbox
11*	003199-01	Bearing, Gear, Main Shaft
12*	004258-12	Pin, Dowel, .1875" OD x .75" Lg

*NOTE:

Items 2, 3, 11 and 12 are assembled at the factory as (item 1) and should be replaced by assembly: 006043-21 Gear, Case, Assembly, Grey

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Needle Case Assembly (1 of 2)

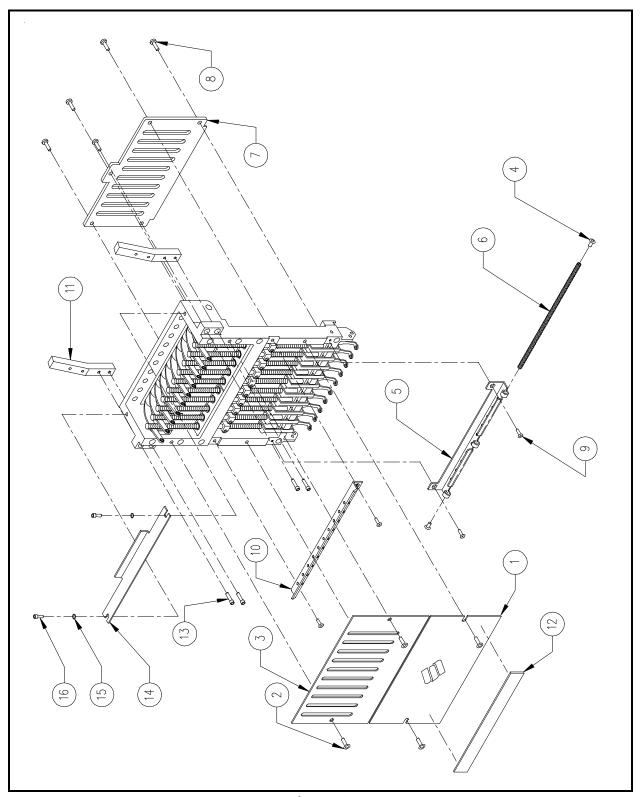


Figure 13

Needle Case Assembly (1 of 2)

Reference Figure 13

Item No.	Part Number	Item Description Comments
1	007511-01	Cover, Needle Case, Lower
2		
	003509-06	Screw, Button Head Cap, M4 x 0.7 x 6 Lg
3	007510-01	Cover, Needle Case, Upper
4	003509-10	Screw, Button Head Cap, M4 x 0.7 x 10 Lg
5	007509-01	Guide, Thread, Lower
6	007519-01	Spring, Thread, Retaining
7	007503-01	Plate, Guide, Needle Bar
8	001924-06	Screw, Cheese Head, Slotted, M4 x 0.7 x 6 Lg
9	001935-06	Screw, Flat Head Phillips, M3 x 0.5 x 6 Lg
10	007508-01	Guide, Thread, Middle
11	007528-01	Support, Tensioner Bracket
12	007527-01	Magnet, Thread, Retaining
13	672018-16	Screw, Socket Head Cap, M4 x 0.7 x 16 Lg
14	006347-01	Blade, Sensor, Interruptor (Head 4 Only)
15	690439-04	Washer, Flat, M4
16	672018-06	Screw, Socket Head Cap, M4 x 0.7 x 6 Lg

Needle Case Assembly (2 of 2)

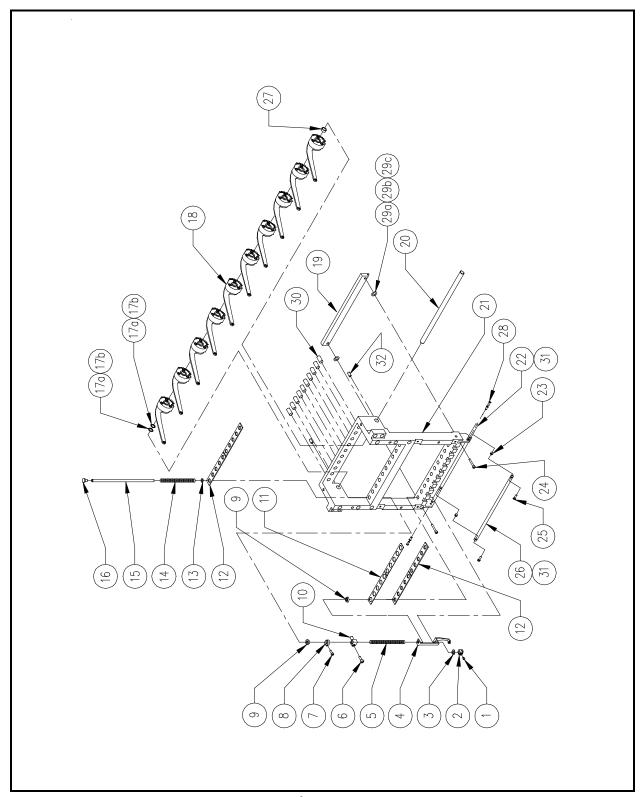


Figure 14

Needle Case Assembly (2 of 2)

Reference Figure 14

Item No.	Part Number	Item Description Comments
1	001828-01	Screw, Set, Needle Clamp
2	001528-01	Clamp, Needle
3	007591-01	Damper, Needle Clamp
4	007924-01	Foot, Presser, Assembly
5	001535-01	Spring, Presser Foot
6	001922-08	Screw, Socket Head Cap, M3 x 0.5 x 8 Lg
7	001922-10	Screw, Socket Head Cap, M3 x 0.5 x 10 Lg
8	001840-01	Clamp, Stop, Needle Bar
9	005577-01	Damper, Needle Case
10	007408-01	Stud, Connecting, Needle Bar
11	007505-01	Shim, Needle Case
12	007506-01	Felt, Needle Case
13	005009-01	Washer, Flat, .260" ID x .420" OD x .03" Thick
14	001537-01	Spring, Holding, Needle Bar
15	001532-01	Bar, Needle
16	002637-08	Screw, Socket Head Cap, Low Head, M5 x 0.8 x 8 Lg
17a	702876-05	Spacer, Precision, .313" ID x .010" Thick (Use as Required)
17b	702876-08	Spacer, Precision, .313" ID x .016" Thick (Use as Required)
18 19	001868-01 007502-01	Lever, Take-Up, Assembly Rail, Guide, Lower
20	007502-01	Shaft, Take-Up Lever
21	007504-01	Case, 10 Needle
22*	007501-01	Bracket, Grabber
23	007312-01	Spacer, Support, Velcro
24	672018-20	Screw, Socket Head Cap, M4 x 0.7 x 20 Lg
25	671855-08	Screw, Pan Head Slotted, M3 x 0.5 x 8 Lg
26*	007513-01	Bar, Grabber
27	007518-01	Spacer, Shaft, Take-Up Lever
28	671855-06	Screw, Pan Head Slotted, M3 x 0.5 x 6 Lg
29a	700837-01	Spacer, Shaft, 1/4" ID x .002" Thick (Use as Required)
29b	700837-02	Spacer, Shaft, 1/4" ID x .004" Thick (Use as Required)
29c	700837-03	Spacer, Shaft, 1/4" ID x .006" Thick (Use as Required)
30	662744-08	Pin, Dowel, .25" OD x .50" Lg
31*	007545-01	Velcro, Wiper, Pile
32	001960-06	Screw, Set, Flat Point, M4 x 0.7 x 6 Lg

*NOTE: Items 26 and 31 should be replaced as a factory built assembly:

008070-01 Grabber Bar Assembly

Items 22 and 31 should be replaced as a factory built assembly:

008071-01 Grabber Bracket Assembly

Thread Tensioner Assembly

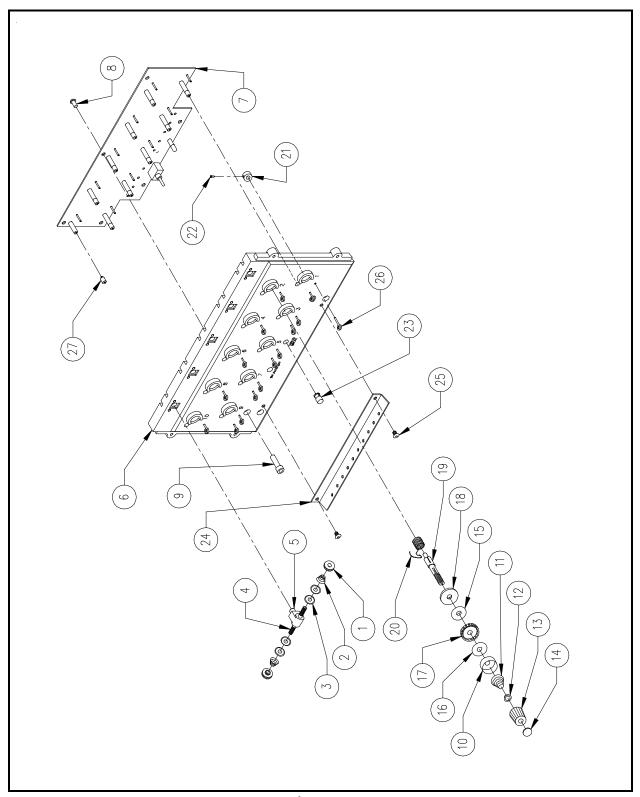


Figure 15

Thread Tensioner Assembly

Reference Figure 15

Item No.	Part Number	Item Description Comments
1	007080-01	Knob, Adjust, Pretensioner, Plastic
2	003654-01	Spring, Pretensioner
3	005137-01	Disk, Pretensioner
4	007531-01	Post, Pretensioner
5	007524-01	Bracket, Pretensioner
6	007523-01	Bracket, Tensioner
7	005531-01	PCB, Thread Break, Assembly
8	001924-06	Screw, Cheese Head, Slotted, M4 x 0.7 x 6 Lg
9	672018-16	Screw, Socket Head Cap, M4 x 0.7 x 16 Lg
10*	005196-01	Base, Tensioner
11*	004854-01	Spring, Tensioner, Thread
12*	005422-01	Cap, Spring
13*	005197-01	Knob, Tensioner, Black, Assembly
14	003560-01	Tab, Tensioner
15*	005198-02	Pad, Felt, .095" Thick
16*	005198-01	Pad, Felt, .065" Thick
17*	006474-01	Disk, Tensioner, Thread, Assembly
18*	004908-01	Disk, Plastic
19*	004897-01	Post, Tensioner
20*	007559-01	Spring, Check, Tensioner, Thread
21	007529-01	Collar, Tensioner, Assembly
22	001922-10	Screw, Socket Head Cap, M3 x 0.5 x 10 Lg
23	007548-01	Cover, LED
24	007525-01	Guide, Thread, Upper
25	003509-06	Screw, Button Head Cap, M4 x 0.7 x 6 Lg
26	002897-01	Post, Guide
27	007659-02	Standoff, M-F, 3/16" Round

*NOTE: Items 10-13 and 15-20 should be replaced as a factory built assembly: 007547-01 Tensioner, Thread, Main, Black, Assembly

Sewing Head Components (1 of 3)

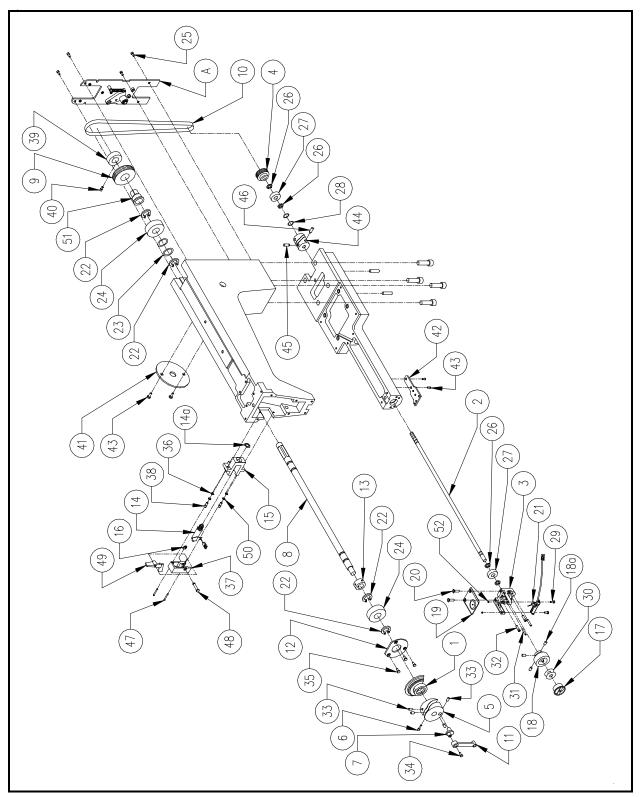


Figure 16

Sewing Head Components (1 of 3)

Reference Figure 16

Item No.	Part Number	Item Description	Comments
А	004504-015	Bobbin Idler Assembly	See Page 19-1
1	003539-01	Counterweight, Phase II	
2	003535-01	Shaft, Bobbin, Phase II	
3a	005601-01	Bracket, Needle Plate	(Trimmer Only)
3b	006576-01	Bracket, Needle Plate	(Non-Trimmer Only)
4	001522-01	Pulley, Drive, Bobbin, Bottom, 16T, 1/5P	
5	003545-01	Cam, Drive, Lever, Take-Up	
6	003546-01	Screw, Set, Cam	
7	002698-01	Rod, Crank, 90 Deg	
8	003532-01	Shaft, Arm	
9*	005332-01	Pulley, Adjustable, Top, 32T, 1/5P	
10	002809-01	Belt, Timing, 1/5P, 104 Groove, 3/8" Wid	le
11	001939-01	Rod, Connecting	
12	003531-01	Plate, Retainer, Bearing, Arm Shaft	
13	004261-01	Collar, Shaft, Headup	
14	001801-01	Solenoid, Jump Stitch	
14a	006564.04	Nut, Panel	Included in Item #14
15	006561-01	Bracket, Solenoid	
16*	001955-14	Ring, Retaining, External, .188"	
17	004267-01	Case, Bobbin	
18	009000-01	Hook, Rotary, Small Bobbin	Induded in Itam #10
18a	006530.01	Screw, Rotary Hook	Included in Item #18
19 20	006520-01 004643-01	Plate, Needle, UTC Screw, Needle Plate	
21	004043-01	Sensor, Under Thread Control, Assembly	
22	003533-05	Ring, Retainer, External, Arm Shaft	
23	002697-09	Washer, Wave, 35mm OD	
24	002696-15	Bearing, Ball, Radial, 15mm ID	
25	001926-12	Screw, Flat Head Socket, M4 x 0.7 x 12 L	a
26	003534-10	Ring, Retaining, External, Bobbin Shaft	9
27	002696-08	Bearing, Ball, Radial, 8mm ID	
28	002697-03	Washer, Wave, 22mm OD	
29	671855-06	Screw, Pan Head Slotted, M3 x 0.5 x 6 Lg	
30	761002-11	Thread, Bobbin, White	•
31	002610-14	Pin, Spring, 3mm x 14mm Lg	
32	672018-16	Screw, Socket Head Cap, M4 x 0.7 x 16 l	_g
33	001971-06	Screw, Set, Flat Point, M6 UNF x 6 Lg	
34	002637-10	Screw, Socket Head Cap, Low Head, M5	x 0.8 x 10 Lg
35	001926-12	Screw, Flat Head Socket, M4 x 0.7 x 12 L	9
36	702946-30	Spacer, Shaft, .187" ID x .312" OD x .03	" Thick
37*	006560-01	Bracket, Latch	
38	672018-12	Screw, Socket Head Cap, M4 x 0.7 x 12 l	- 9

Sewing Head Components (1 of 3) (cont)

Reference Figure 16

Item No.	Part Number	Item Description	Comments
39	002668-01	Collar, Support, Gear	
40	670038-10	Screw, Socket Head Cap, 10-32 x 5/8"	
41a	002893-21	Cover, Grabber	(Trimmer Only)
41b	003622-21	Cover, Solenoid	(Non-Trimmer Only)
42	006526-01	Bracket, Picker	
43	003509-08	Screw, Button Head Socket, M4 x 0.7 x 8	3 Lg
44	007257-01	Cam, Trimmer	_
45	001927-10	Screw, Set, Flat Point, M5 x 0.8 x 10 Lg	
46	007272-10	Screw, Set, Cone Point, M5 x 0.8 x 10 Lg	
47	001922-20	Screw, Socket Head Cap, M3 x 0.5 x 20	Lg
48*	006559-01	Pin, Latch	
49*	002876-21	Latch, Jump Stitch	
50	690427-04	Washer, Lock, Split, M4	
51*	005331-01	Pulley, Hub, Adjustable	
52	006549-03	O-Ring, .187" ID x .06" Thick	

*NOTE:

Items 9 and 51 should be replaced as a factory built assembly:

005191-01 Pulley, Adjustable, Assembly

Items 16, 37, 48 and 49 should be replaced as a factory built assembly: 007340-01 Bracket, Latch, Jump Stitch, Assembly

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Sewing Head Components (2 of 3)

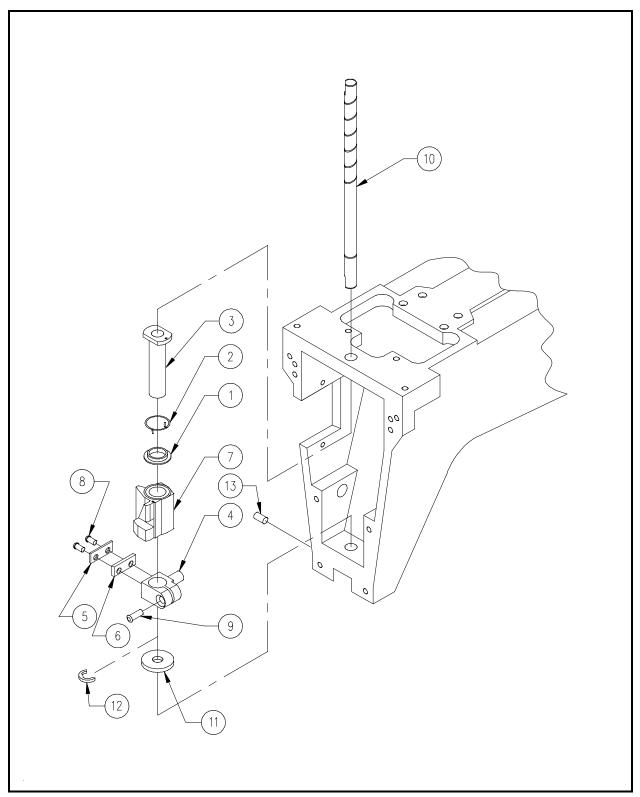


Figure 17

Sewing Head Components (2 of 3)

Reference Figure 17

*NOTE: Items 1-7 should be replaced as a factory built assembly:

001990-01S Assembly, Reciprocator

Sewing Head Components (3 of 3)

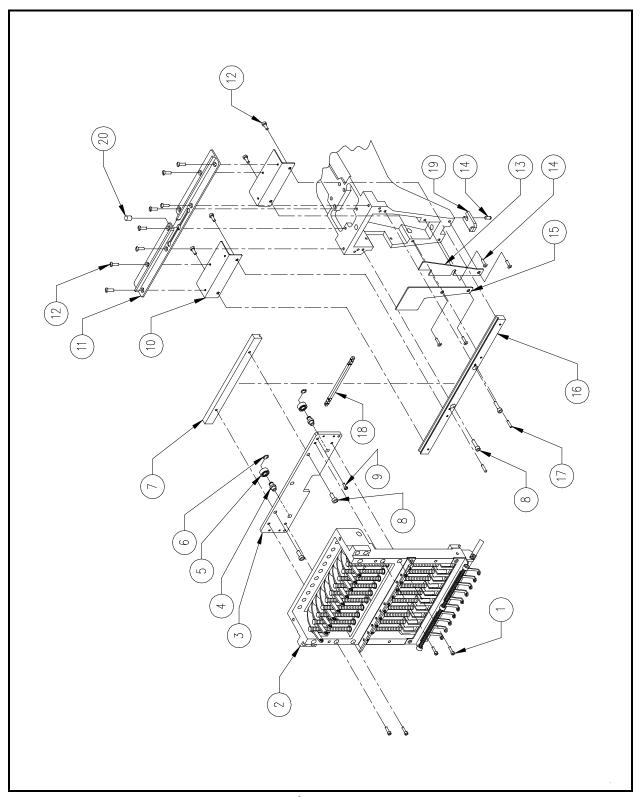


Figure 18

Sewing Head Components (3 of 3)

Reference Figure 18

Item	Part	Item	
No.	Number	Description	Comments
1	672018-16	Screw, Socket Head Cap, M4 x 0.7 x 16 I	α
2		Needle Case Assembly	See Pages 13-1 & 14-1
3*	007515-01	Plate, Bearing, Retainer	300 Tages 13 Tal 11 T
4*	007516-01	Stud, Retainer	
5	007517-01	Bearing, Radial, 4mm ID x 9mm OD	
6	007562-06	Ring, Retaining	
7	007520-01	V-Rail, Needle Case	
8	672018-12	Screw, Socket Head Cap, M4 x 0.7 x 12 l	Lg
9	672018-06	Screw, Socket Head Cap, M4 x 0.7 x 6 Lo	9
10	007546-01	Bracket, Support, Take-Up Lever Guide	
11	007507-01	Rail, Guide, Take-Up Lever	
12	671855-06	Screw, Pan Head Slotted, M3 x 0.5 x 6 Lo	
13	007473-01	Cover, Front, Arm, Right	
14	003509-08	Screw, Button Head Socket, M4 x 0.7 x 8	3 Lg
15	007514-01	Cover, Front, Arm, Left	
16	007521-01	V-Rail, Arm	
17	002610-14	Pin, Spring, 3mm	
18	007522-01	Bearing, Cross Roller	
19	001942-01	Plate, Position, Machined	
20	002821-01	Pad, Resevoir, Felt	

*NOTE: Items 3 and 4 should be replaced as a factory built assembly:

007558-01 Plate, Retainer, Bearing, Assembly

Bobbin Idler Assembly

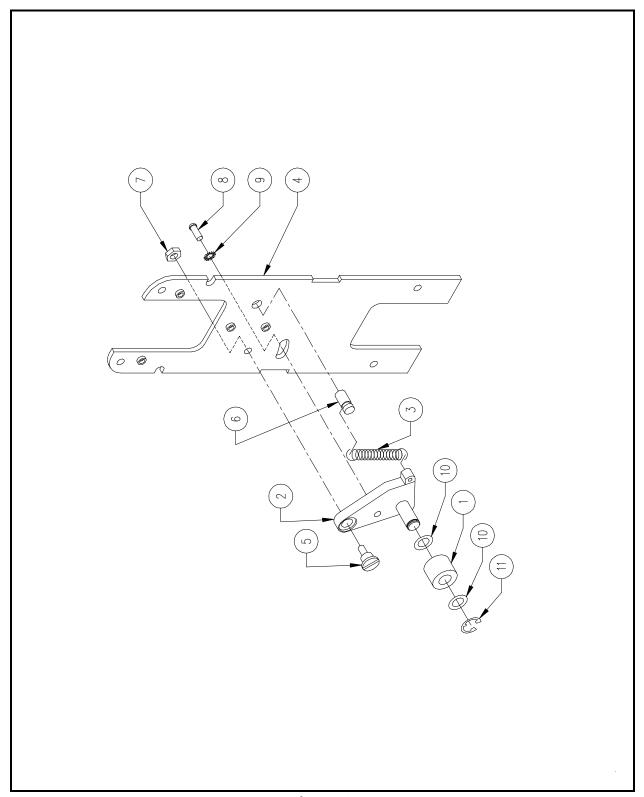


Figure 19

Bobbin Idler Assembly (004504-01S)

Reference Figure 19

Item No.	Part Number	Item Description Comments
1	003593-01	Roller, Idler
2	002817-01	Bar, Idler, Assembly
3	002816-06	Spring, Idler
4	003668-01	Cover, Head, Rear
5	003188-01	Screw, Shoulder, 7mm OD, M5 x 0.8 x 5 Lg
6	660278-01	Stud, Press, 1/4" x 1/2" Lg
7	003543-05	Nut, Jam, Hex, M5
8	672036-10	Screw, Button Head Cap, M5 x 0.8 x 10 Lg
9	690713-04	Washer, Lock, External Star, 1/4"
10	702876-08	Spacer, Shaft, 5/16" ID x .016" Thick
11	001955-18	Ring, Retainer, External, 5/16" ID

Take-Up Drive Lever Assembly

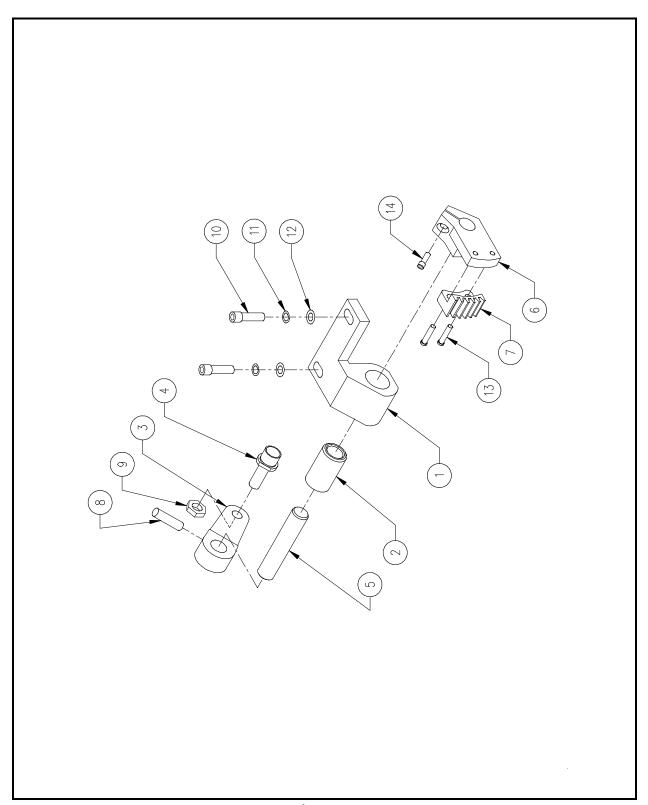


Figure 20

Take-Up Drive Lever Assembly

Reference Figure 20

Item No.	Part Number	Item Description Comments
	Hamber	Description Comments
1*	003567-01	Base, Drive, Lever, Take-Up, PHS II
2*	001947-01	Bushing, Base, Drive, Lever, Take-Up
3*	004821-01	Lever, Drive, Lever, Take-Up
4	001983-01	Follower, Assembly
5*	004820-01	Shaft, Drive, Lever, Take-Up
6	001893-01	Case, Gear, Drive, Lever, Take-Up
7	001894-01	Gear, Drive, Lever, Take-Up
8*	660830-10	Pin, Groove, 1/8" OD x 5/8" Lg
9	003543-05	Nut, Jam, Hex, M5
10	672018-14	Screw, Socket Head Cap, M4 x 0.7 x 14 Lg
11	690427-04	Washer, Lock, Split, M4
12	690439-04	Washer, Flat, M4
13	671855-08	Screw, Pan Head Slotted, M3 x 0.5 x 8 Lg
14	672018-10	Screw, Socket Head Cap, M4 x 0.7 x 10 Lg

*NOTE: Items 1 and 2 should be replaced as a factory built assembly: 005362-01 Assembly, Bushing, Take-Up Lever

Items 3, 5, and 8 should be replaced as a factory built assembly: 004768-01 Lever, Drive, Lever, Take-up, Assembly

Trimmers, Head Level Parts (1 of 2)

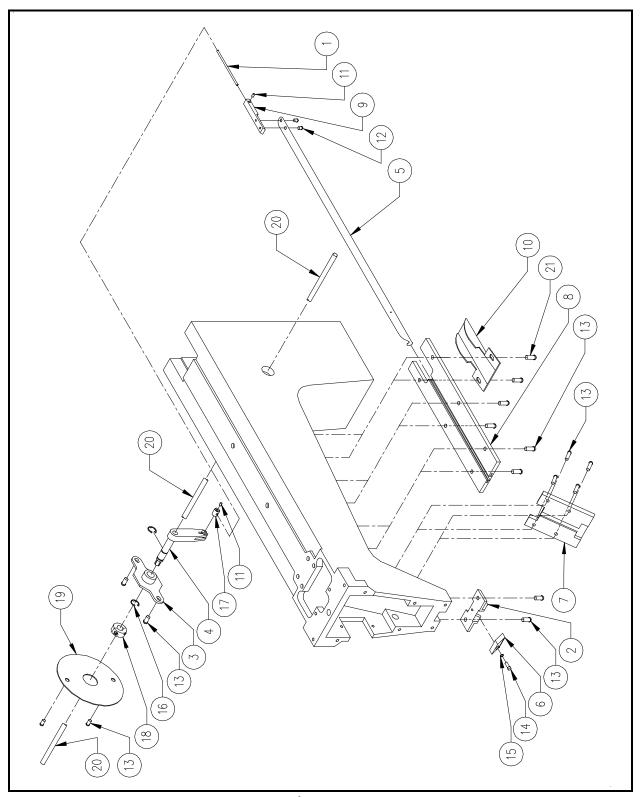


Figure 21

Trimmers, Head Level Parts (1 of 2)

Reference Figure 21

Item No.	Part Number	Item Description Comments
1	003185-01	Rod, Guide
2	002892-01	Mount, Conduit, Front
3	003168-01	Mount, ^w /Bearing
4	003166-01	Arm, Actuator
5	003586-01	Blade, Grabber
6	003587-01	Guide, Blade
7	003588-01	Cover, Blade, Front
8	003589-01	Cover, Blade, Top
9	003590-01	Bracket, Transition
10	003592-21	Cover, Blade, Rear
11	001962-03	Screw, Set, Flat Point, M3 x 0.5 x 3 Lg
12	670406-02	Screw, Button Head Cap, 4-40 x 1/8"
13	003509-08	Screw, Button Head Socket, M4 x 0.7 x 8 Lg
14	672018-10	Screw, Socket Head Cap, M4 x 0.7 x 10 Lg
15	690439-04	Washer, Flat, M4
16	003157-06	Ring, Retainer, Crescent
17	003155-01	Swivel, Wire
18	007139-01	Collar, Clamp
19	002893-21	Cover, Grabber
20	003178-01	Shaft, Pivot, Grabber
21	003509-10	Screw, Button Head Socket, M4 x 0.7 x 10 Lg

Trimmers, Head Level Parts (2 of 2)

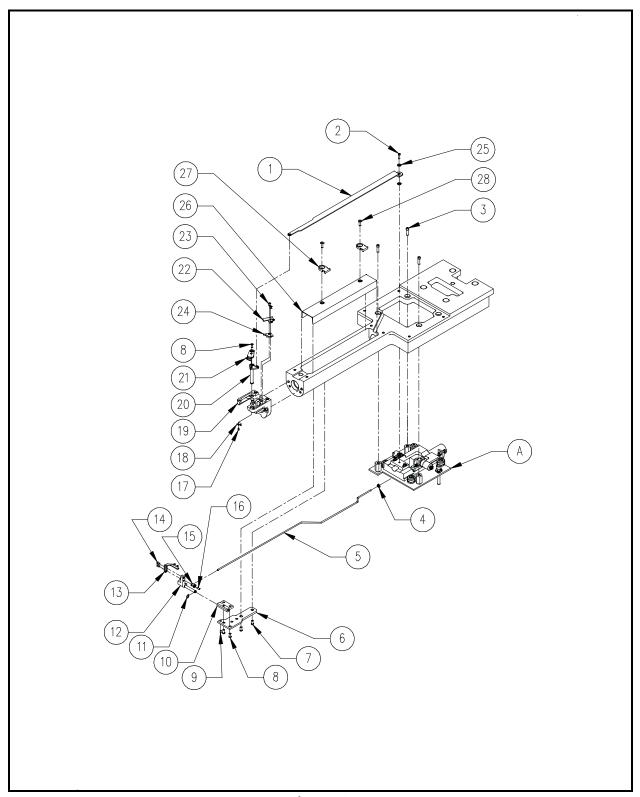


Figure 22

Trimmers, Head Level Parts (2 of 2)

Reference Figure 22

Item No.	Part Number	Item Description	Comments
Α	007265-01	Assembly, Lower Trimmer Drive	See Page 23-1
1	005610-01	Link, Connecting	555 . agc <u>1</u> 5 .
2	003679-01	Screw, Shoulder, 4-40 x 1/8" OD x 1/8"	Lg
3	671852-16	Screw, Socket Head Cap, M5 x 0.8 x 16	
4	690364-32	Washer, Flat, #2, .032 Thick	S
5	005616-01	Link, Picker	
6	006526-01	Bracket, Picker	
7	003509-08	Screw, Button Head Socket, M4 x 0.7 x 8	3 Lg
8	007443-06	Screw, Flat Head Socket, M3 x 0.5 x 6 Lo	9
9	001962-06	Screw, Set, Flat Point, M3 x 0.5 x 6 Lg	
10	003511-01	Mount, Picker	
11	001955-08	Ring, Retainer, External, .125"	
12	003141-01	Base, Picker	
13	005615-01	Picker	
14	003136-06	Screw, Button Head Socket, M3 x 0.5 x 6	5 Lg
15	003131-01	Pin, Swivel, Front	
16	001962-03	Screw, Set, Flat Point, M3 x 0.5 x 3 Lg	
17	006305-01	Screw, Cheese Head, M2 x 0.4 x 3 Lg	
18	003685-01	Clip, Fixing, Drive Arm	
19	005601-01	Bracket, Needle Plate	
20	005602-01	Arm, Drive, Movable Knife	
21	005617-01	Knife, Movable	
22	005600-01	Knife, Spring, Fixed	4.1
23	003136-04	Screw, Button Head Socket, M3 x 0.5 x 4	4 Lg
24 25	006671-01	Presser, Under Thread) " Thick
26	005098-01 006387-01	Spacer, Shaft, .128" ID x .317" OD x .03 Bracket, Bed, Cable) THICK
27	000367-01	Mount, Cable Tie	
28	004330-01	Screw, Flat Head Socket, M4 x 0.7 x 10 l	a
20	001720-10	Sciew, Hat Head Socket, WH X 0.7 X TO I	-9

Trimmer Drive Assembly

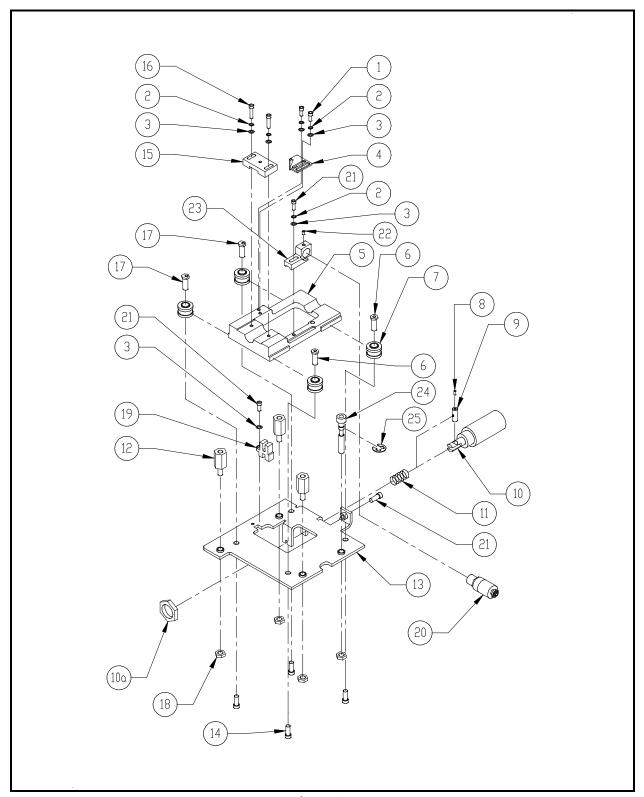


Figure 23

Trimmer Drive Assembly

Reference Figure 23

Item No.	Part Number	Item Description	Comments
1	001922-06	Screw, Socket Head Cap, M3 x 0.5 x 6 Lo	ר
2	690427-03	Washer, Lock, Split, M3	9
3	690439-03	Washer, Flat, M3	
4	005611-01	Bracket, Switch, Adjusting	
5	007258-01	Frame, Movable, Machined	
6	005661-01	Shaft, Roller, Movable Frame	
7	005669-01	Roller, Movable, Frame	
8	001962-06	Screw, Set, Flat Point, M3 x 0.5 x 6 Lg	
9	003627-01	Clamp, Swivel, Picker	
10*	007273-01	Picker, Solenoid, Assembly	
10a		Nut, Panel, Solenoid	(Included with Item 10)
11	003686-01	Spring, Return, Solenoid	
12	004746-01	Standoff, 10mm Hex, M-F, M5 x 0.8 x 16	5 Lg
13	007259-01	Bracket, Solenoid, Mounting	
14	670174-08	Screw, Pan Head Phillips, 6-32 x 1/2"	
15	005609-01	Plate, Link Adjusting	
16	001922-14	Screw, Socket Head Cap, M3 x 0.5 x 14	Lg
17	005661-02	Shaft, Roller, Movable Frame	
18	680430-05	Nut, Hex, M5	
19*	007264-01	Switch, Optical, Assembly	
20*	007262-01	Solenoid, Trimmer, Assembly	
21	001922-10	Screw, Socket Head Cap, M3 x 0.5 x 10	Lg
22	001962-03	Screw, Set, Flat Point, M3 x 0.5 x 3 Lg	
23	007255-01	Mount, Solenoid, Trimmer	
24	007256-01	Bolt, Adjuster, Trimmer	
25	001955-15	Ring, Retaining, External, .188"	

*NOTE: Items 10, 19 and 20 should be replaced as a factory built assembly:

007261-01 Trimmer, Picker, Solenoid, Opto, Assembly

X-Drive Motor Assembly

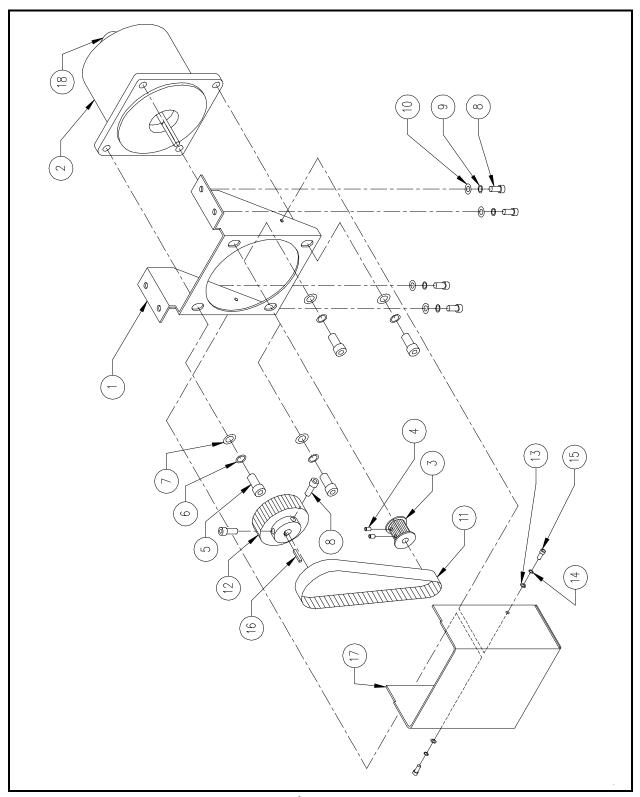


Figure 24

X-Drive Motor Assembly

Reference Figure 24

Item No.	Part Number	Item Description	Comments
1	005650-01	Mount, Motor, X-Y Drive	
2	005693-01	Motor, X-Y Servo, Assembly	
3	005657-01	Sprocket, 1/5P, 13T	
4	670050-02	Screw, Set, Knurled Cup, 8-32 x 1/8"	
5	006302-10	Screw, Socket Head Cap, 3/8-16 x 5/8"	
6	690033-06	Washer, Lock, Split, 3/8" ID	
7	690034-06	Washer, Flat, 3/8" ID	
8*	670035-10	Screw, Socket Head Cap, 1/4-20 x 5/8"	
9	690033-04	Washer, Lock, Split, 1/4"	
10	690034-04	Washer, Flat, 1/4"	
11	005687-01	, 5, , ,	
12*	007177-01	Pulley, X-Drive, ^w /Keyway	
13	690034-38	Washer, Flat, #8	
14	690033-38	Washer, Lock, Split, #8	
15	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
16*	007167-02	Key, Pulley, X-Drive	
17	007041-01	Cover, Motor, X-Y Drive	
18*	006306-01	Encoder, Motor, 1000 Line	

*NOTE: Items 8, 12 and 16 may be ordered as a set:

007440-015 Assembly, Pulley, X-Drive, W/Keyway

Item 18 can be replaced by a service technician only using Kit Number 009028-01 Kit, Encoder Replace, X & Y Motor and Part Replacement Instruction 110262-01 Instruct, Encoder Installation

Y-Drive Motor Assembly

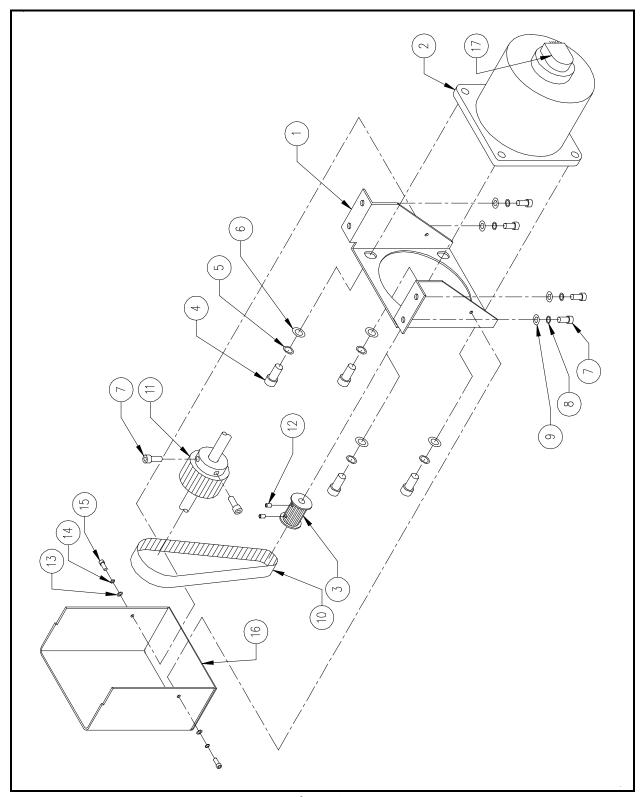


Figure 25

Y-Drive Motor Assembly

Reference Figure 25

1 005650-01 Mount, Motor, X-Y Drive 2 005693-01 Motor, X-Y Servo, Assembly	
, , , , , , , , , , , , , , , , , , , ,	
3 005657-02 Sprocket, 1/5P, 13T	
4 006302-10 Screw, Socket Head Cap, 3/8-16 x 5/8"	
5 690033-06 Washer, Lock, Split, 3/8"	
6 690034-06 Washer, Flat, 3/8"	
7 670035-10 Screw, Socket Head Cap, 1/4-20 x 5/8"	
8 690033-04 Washer, Lock, Split, 1/4"	
9 690034-04 Washer, Flat, 1/4"	
10 005686-01 Belt, Timing, 1/5P, 72T	
11 512569-01 Pulley, Y-Drive	
12 670050-02 Screw, Set, Knurled Cup, 8-32 x 1/8"	
13 690034-38 Washer, Flat, #8	
14 690033-38 Washer, Lock, Split, #8	
15 670149-06 Screw, Socket Head Cap, 8-32 x 3/8"	
16 007041-01 Cover, Motor, X-Y Drive	
17* 006306-01 Encoder, Motor, 1000 Line	

*NOTE:

Item 17 can be replaced by a service technician only using Kit Number 009028-01 Kit, Encoder Replace, X & Y Motor and Part Replacement Instruction 110262-01 Instruct, Encoder Replacement

Electronics Box Assembly

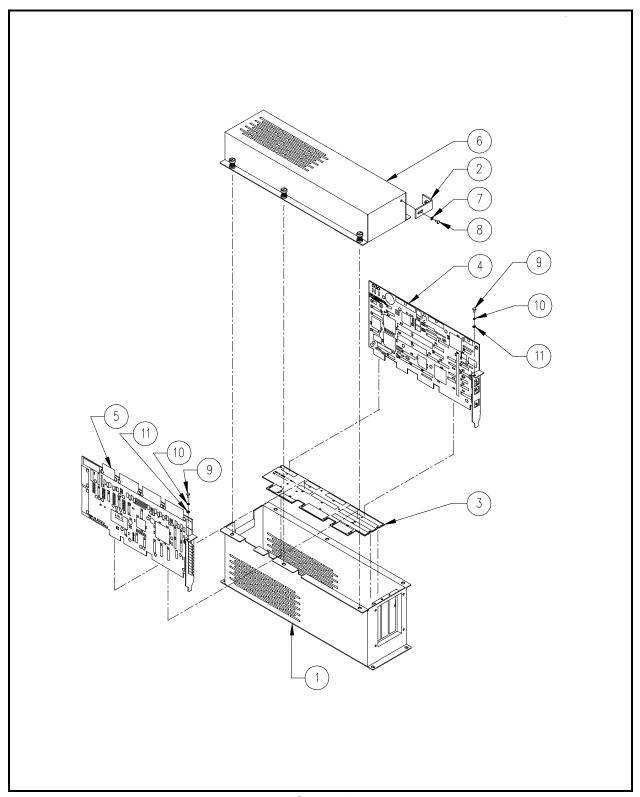


Figure 26

Electronics Box Assembly

Reference Figure 26

Item No.	Part Number	Item Description	Comments
1	005697-01	Enclosure, EMI, Bottom	
2	000539-01	Bracket, Cover #4, Rear	
3	006115-01	•	
_		PCB, Backplane, Assembly	
4	006550-01	PCB, DSP188/Disk, Assembly	
5	006422-01	PCB, Trimmer Interface, Assembly	
6	004967-01	Enclosure, EMI, Top	
7	690034-38	Washer, Flat, #8	
8	672982-08	Screw, Pan Head Phillips, 8-32 x 1/2"	
9	670131-05	Screw, Pan Head Phillips, 4-40 x 5/16"	
10	690033-34	Washer, Lock, Split, #4	
11	690034-34	Washer, Flat, #4	

X-Beam W/Carriage Assembly

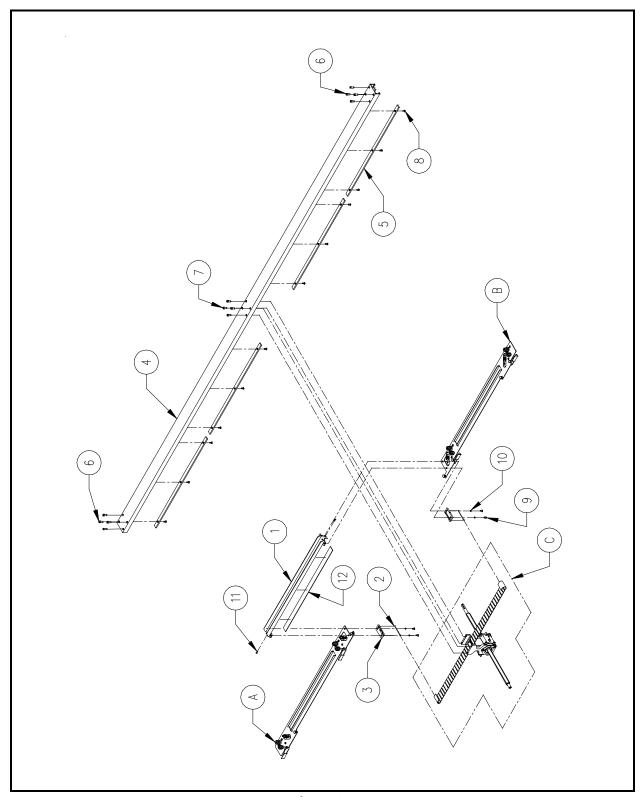


Figure 27

X-Beam W/Carriage Assembly (007461-015)

Reference Figure 27

Item No.	Part Number	Item Description	Comments
А	005652-025	Assembly, Carriage, Left Side	See Page 29-1
В	005652-015	Assembly, Carriage, Right Side	See Page 28-1
C	007441-015	Assembly, Ball Spline	See Page 30-1
1	000397-01	Strut, X-Carriage	-
2	000378-32	Pin, Dowel, 1/8"	
3	009037-01	Clamp, X-Belt	
4	000399-01	Beam, X-Axis	
5	000411-01	Rail, X-Axis	
6	670149-08	Screw, Socket Head Cap, 8-32 x 1/2"	
7	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
8	670267-06	Screw, Button Head Cap, 8-32 x 3/8"	
9	670174-08	Screw, Pan Head Phillips, 6-32 x 1/2"	
10	690811-36	Washer, Internal Star, #6	
11	670068-08	Screw, Socket Head Cap, 6-32 x 1/2"	
12	862320-12	Tape, Foam 1/16" Thick x 3/4" Wide	(16.25" length required)

Left Side Carriage Assembly

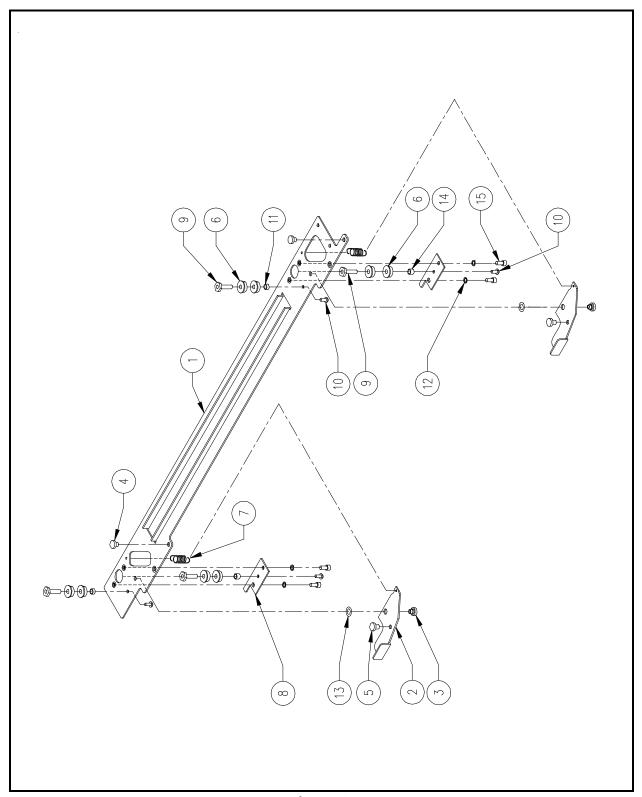


Figure 28

Left Side Carriage Assembly (005652-02S)

Reference Figure 28

Item No.	Part Number	Item Description	Comments
1*	005648-02	Carriage, X-Axis, Left	
2*	005685-02	5	
		Actuator, Hoop Holder, Left	
3*	454307-01	Pivot, Hoop Holder	
4*	454308-01	Pin, Hoop Holder, Carriage	
5*	454308-02	Pin, Hoop Holder, Actuator	
6	340045-01	Bearing, Flanged, 3/16" ID	
7	504396-01	Spring, Extension	
8	000398-01	Plate, Mounting, Bearing	
9	000423-01	Shaft, X-Bearing	
10	670174-10	Screw, Pan Head Phillips, 6-32 x 5/8"	
11	702875-12	Spacer, Shaft, 3/16" ID x .125" Thick	
12	690811-38	Washer, Internal Star, #8	
13*	344377-01	Washer, Flat, #8, Teflon	
14	702875-13	Spacer, Shaft, 3/16" ID x .188" Thick	
15	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	

*NOTE: Items 1-5 and 13 should be replaced as a factory built assembly:

007459-02 Carriage, X, Left, Assembly

Right Side Carriage Assembly

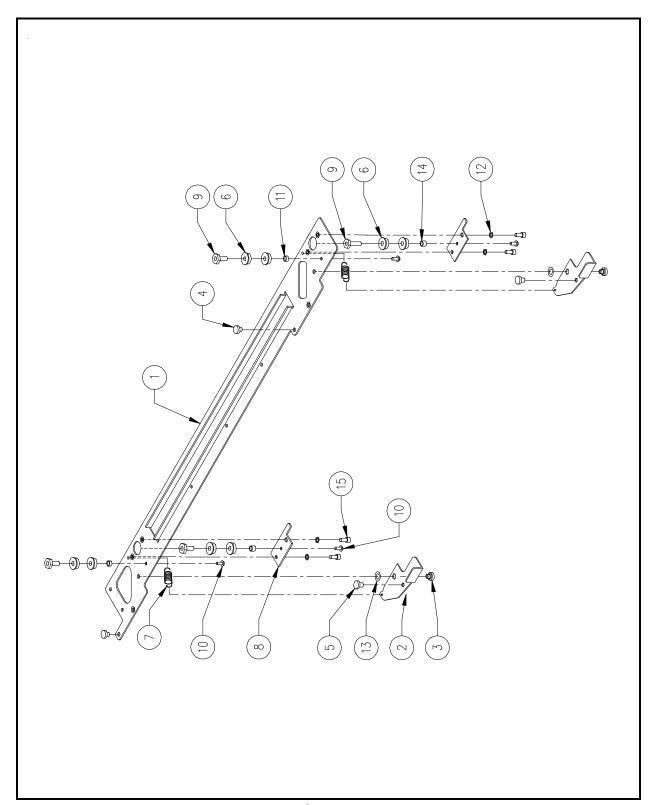


Figure 29

Right Side Carriage Assembly (005652-01S)

Reference Figure 29

Item No.	Part Number	Item Description	Comments
	- Trainibei	2 CSC I PCI CI	
1*	005648-01	Carriage, X-Axis, Right	
2*	005685-01	Actuator, Hoop Holder, Right	
3*	454307-01	Pivot, Hoop Holder	
4*	454308-01	Pin, Hoop Holder, Carriage	
5*	454308-02	Pin, Hoop Holder, Actuator	
6	340045-01	Bearing, Flanged, 3/16" ID	
7	504396-01	Spring, Extension	
8	000398-01	Plate, Mounting, Bearing	
9	000423-01	Shaft, X-Bearing	
10	670174-10	Screw, Pan Head Phillips, 6-32 x 5/8"	
11	702875-12	Spacer, Shaft, 3/16" ID x .125" Thick	
12	690811-38	Washer, Internal Star, #8	
13*	344377-13	Washer, Flat, #8, Teflon	
14	702875-13	Spacer, Shaft, 3/16" ID x .188" Thick	
15	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
		·	

*NOTE: Items 1-5 and 13 should be replaced as a factory built assembly:

007459-01 Carriage, X, Right, Assembly

Ball Spline Assembly

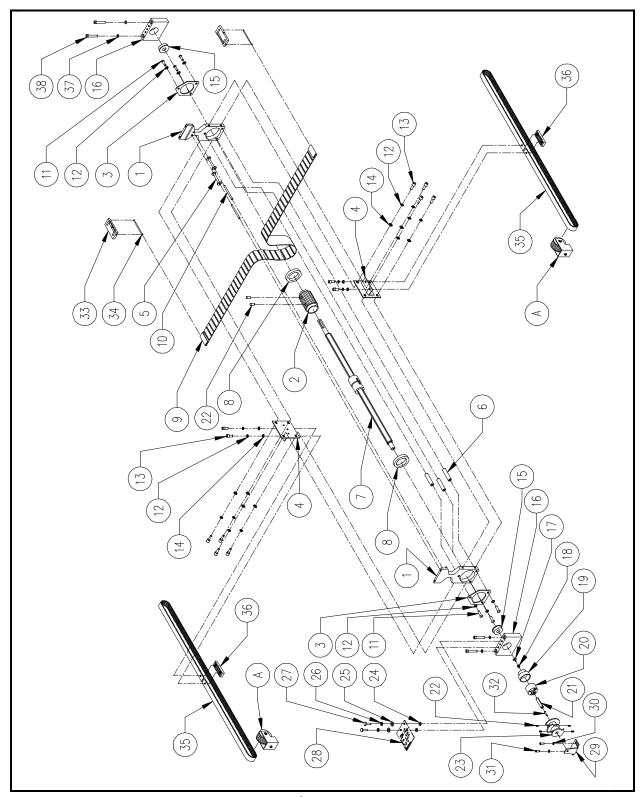


Figure 30

Ball Spline Assembly

Reference Figure 30

Item	Part	Item	
No.	Number	Description	Comments
A	000440-01S	Y-Idler Pulley Assembly	See Page 37-1
1*	007455-01	Plate, Linkage, X-Drive	See Luge 57 1
2*	452558-01	Pulley, Ball Spline	
<u>-</u> 3*	552932-01	Retainer, Bearing, X-Drive	
4*	000470-01	Bracket, Clamp, Belt, Assembly	
5*	000401-01	Idler, X-Drive	
6*	503052-01	Spacer, Plate, X-Drive	
7*	007178-01	Spline, Ball, W/Keyway, Assembly	
8*	342588-14	Bearing, Torque Tube	
9*	342592-01	Belt, Timing, 371T, .080P, 1.19" Wide	
10*	000378-28	Pin, Dowel, 1/8" OD x 1-3/4" Lg	
11*	670267-10	Screw, Button Head Cap, 8-32 x 5/8"	
12*	690033-38	Washer, Lock, Split, #8	
13*	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
14*	690034-38	Washer, Flat, #8	
15	342591-08	Bearing, Flanged, Shielded, 3/8" Bore	
16*	000375-01	Support, Ball Spline	
17*	000426-01	Shaft, X-Home	
18*	000439-01	Gear, Pinion, 14 Tooth, 2mm ID	
19*	000427-01	Housing, X-Home	
20*	000436-01	Gearbox, Reduction, 5:1	
21*	006568-01	Shaft, X-Home/Limit	
22	671272-03	Screw, Set, Socket, 6-32 x 3/16"	
23	006567-01	Flag, X-Home/Limit	P1. 1 . 1 .
24	700134-06	Spacer, Nylon, .149" ID x .250" OD x .38" T	Inick
25 26	690034-36	Washer, Flat, #6	
26 27	690033-36	Washer, Lock, Split, #6	
28	670174-12 006492-01	Screw, Pan Head Phillips, 6-32 x 3/4"	
28 29	006569-01	PCB, X-Home Limit, Assembly Support, X-Home/Limit	
30	690034-36	Washer, Flat, #6	
31	670174-06	Screw, Pan Head Phillips, 6-32 x 3/8"	
32*	006390-12	Pin, Dowel	
33*	009037-01	Clamp, X-Belt	
34*	000378-32	Pin, Dowel, 1/8" OD x 2.00" Lg	
35	000376-01	Belt, Y-Drive	
36	000370-01	Clamp, Belt	
37	690033-03	Washer, Lock, Split, #10	
38	670038-16	Screw, Socket Head Cap, 10-32 x 1.00"	
		,	

*NOTE: Items 1-14, 17, 18, 33 and 34 should be replaced as a factory built

assembly: 007463-01 Assembly, Ball Spline

Items 16, 19, 20, 21 and 32 should be replaced as a factory built assembly:

007442-01S Assembly, Gear Box, X-Home/Limit

Z-Drive Assembly (1 of 2)

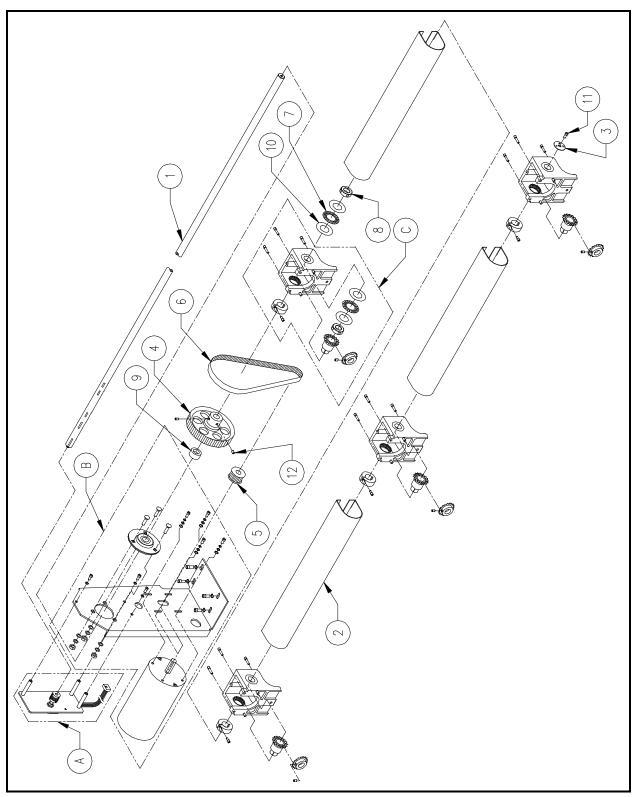


Figure 31

Z-Drive Assembly (1 of 2)

Reference Figure 31

Item No.	Part Number	Item Description	Comments
А		Encoder Plate Assembly	See Page 33-1
В		Z-Drive Mount Assembly	See Page 34-1
C		Gearbox Assembly	See Page 12-1
1	003225-01	Shaft, Drive, Z-Axis	3
2	006676-01	Cover, Z-Shaft, 16.69" Lg	
3	003237-01	Disk, Indicator, Headup	
4	000381-01	Sprocket, 5mmP, 72T	
5	000382-01	Sprocket, 5mmP, 20T	
6	342751-13	Belt, Timing, 5mmP	
7	004945-01	Bearing, Thrust, 15mm	
8	342630-01	Collar, Shaft, 15mm ID	
9	005435-01	Spacer, Z-Shaft	
10	693155-15	Washer, Thrust, 15mm ID	
11	671686-12	Screw, Socket Head Cap, M6 x 1.0 x 12 L	9
12	670872-04	Screw, Set, Knurled Cup, 1/4-20 x .25"	

Z-Drive Assembly (2 of 2)

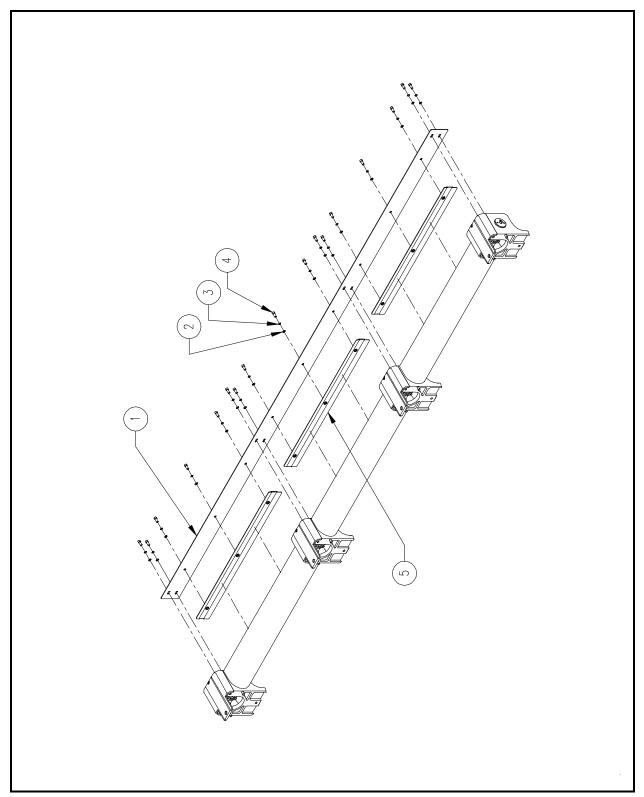


Figure 32

Z-Drive Assembly (2 of 2)

Reference Figure 32

Item	Part	Item	Comments
No.	Number	Description	
1	006661-01	Plate, Cover, Z-Shaft	x 0.7 x 10 Lg
2	690439-04	Washer, Flat, M4	
3	690427-04	Washer, Lock, Split, M4	
4	672018-10	Screw, Socket Head Cap, M4	
5	006660-01	Plate, Clamp, Z-Shaft	

Encoder Plate Assembly

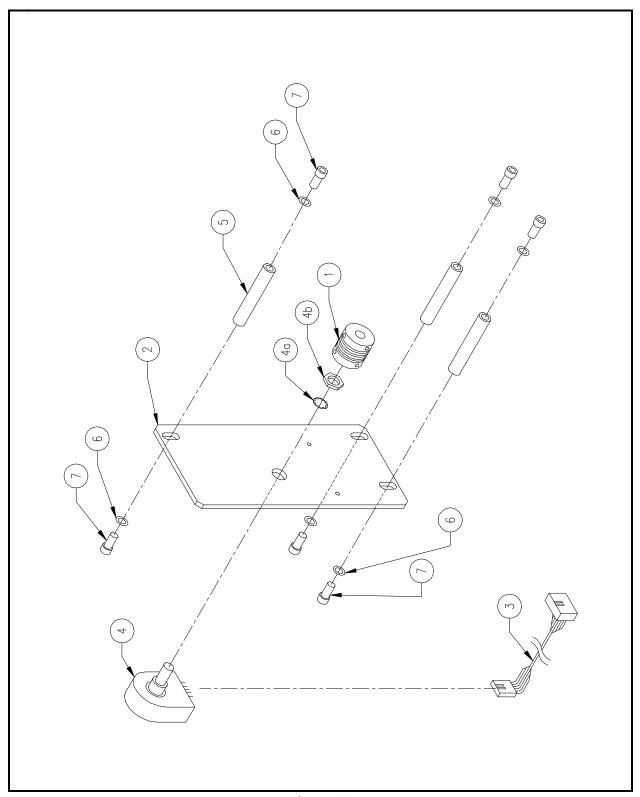


Figure 33

Encoder Plate Assembly

Reference Figure 33

Item No.	Part Number	Item Description	Comments
	002552.04		
1	003553-01	Coupler, Shaft, Helical, 1/4" x 1/4"	
2	004790-01	Plate, Mounting, Encoder	
3	005423-01	Cable, Z-Encoder, Assembly	
4	004729-01	Encoder, Z-Axis	
4a		Washer, Lock	(Included in Item #4)
4b		Nut, Panel	(Included in Item #4)
5	712934-28	Standoff, Round, Female, 8-32 x 1.75" L	_g
6	690034-38	Washer, Flat, #8	
7	670149-08	Screw, Socket Head Cap, 8-32 x 1/2"	

Z-Drive Mount Assembly

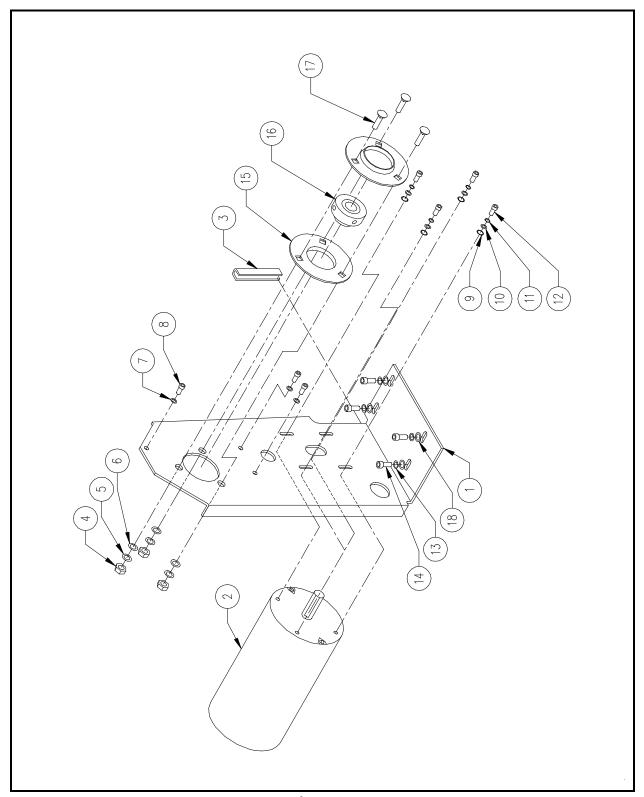


Figure 34

Z-Drive Mount Assembly

Reference Figure 34

Item No.	Part Number	Item Description	Comments
1	005434-01	Bracket, Z-Drive Motor	
2	005621-01	Motor, Z-Axis, Assembly	
3	862294-01	Protector, Edge, Rubber, 3/32" x 5/16"	
4	680032-04	Nut, Hex, 1/4-20	
5	690033-04	Washer, Lock, Split, 1/4"	
6	690034-04	Washer, Flat, 1/4"	
7	690034-38	Washer, Flat, #8	
8	670149-08	Screw, Socket Head Cap, 8-32 x 1/2"	
9	690713-38	Washer, Lock, External Star, #8	
10	690034-38	Washer, Flat, #8	
11	690033-38	Washer, Lock, Split, #8	
12	670149-08	Screw, Socket Head Cap, 8-32 x 1/2"	
13	690033-03	Washer, Lock, Split, #10	
14	670038-10	Screw, Socket Head Cap, 10-32 x 5/8"	
15	005437-01	Flange, Pair, Bearing, Z-Drive	
16	005436-01	Bearing, Spherical, 15mm ID	
17	005438-12	Bolt, Carriage, 1/4-20 x 3/4"	
18	690034-03	Washer, Flat, #10	

Y-Drive Assembly

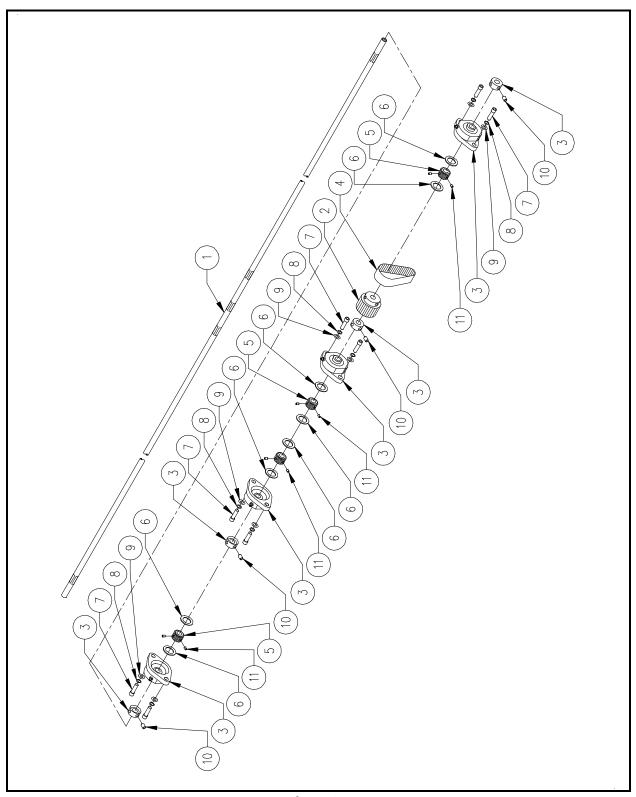


Figure 35

Y-Drive Assembly

Reference Figure 35

Item No.	Part Number	Item Description Comments	
1	443059-01	Shaft, Drive, Y-Axis	
2	512569-01	Pulley, Y-Drive	
3	343054-08	Bearing, Centering, Flange, 1/2"	
4	005686-01	Belt, Timing, 72T, 1/5P	
5*	512574-01	Pulley, Y-Drive, 16T	
6*	342571-16	Flange, Pulley, 1/5P, 16T	
7	670051-16	Screw, Socket Head Cap, 5/16-18 x 1"	
8	690033-04	Washer, Lock, Split, 1/4"	
9	690034-04	Washer, Flat, 1/4"	
10	672929-11	Screw, Set, Silver Tip, 1/4-20 x 1/4"	
11	674489-06	Screw, Set, Brass Tip, 8-32 x 3/16"	
	*NOTE·	Items 5 and 6 should be replaced as a factory built assembly:	

*NOTE: Items 5 and 6 should be replaced as a factory built assembly:

372574-01 Pulley, Motor, Y-Drive, Assembly

Left Y-Carriage Assembly

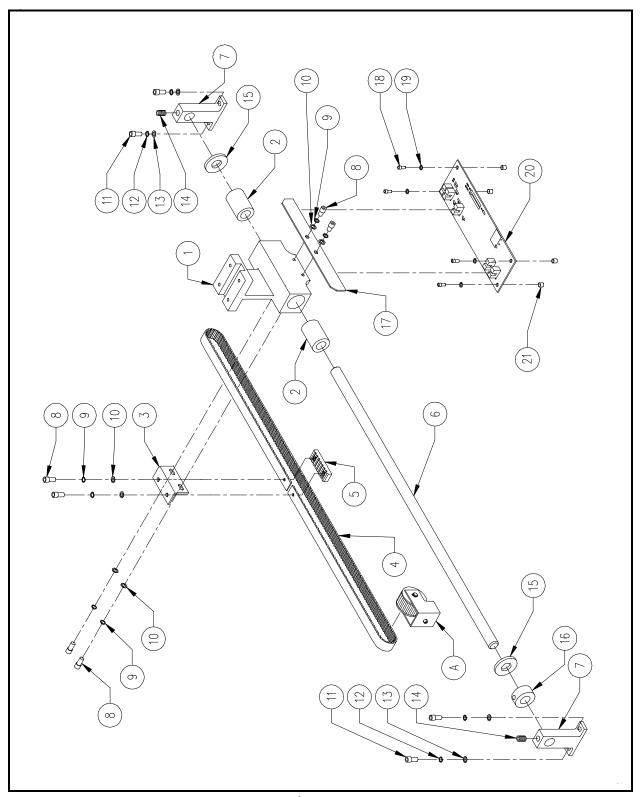


Figure 36

Left Y-Carriage Assembly (007460-01S)

Reference Figure 36

Item No.	Part Number	Item Description	Comments
110.	Number	Description	Comments
Α	000440-015	Y-Idler Pulley Assembly	See Page 37-1
1*	007454-01	Carriage, Y-Axis	-
2*	005342-08	Bearing, Sleeve, Frelon	
3	553057-01	Bracket, Clamp, Belt	
4	000376-01	Belt, Y-Drive	
5	000372-01	Clamp, Belt	
6	452749-01	Rail, Y-Axis	
7	000373-01	Support, Rail, Y-Axis	
8	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
9	690033-38	Washer, Lock, Split, #8	
10	690034-38	Washer, Flat, #8	
11	670038-10	Screw, Socket Head Cap, 10-32 x 5/8"	
12	690033-03	Washer, Lock, Split, #10	
13	690034-03	Washer, Flat, #10	
14	674489-09	Screw, Set, Socket, Brass Tip, 10-32 x 3/1	6"
15	342910-01	Washer, Rubber, 1/2" ID	
16	342872-08	Collar, Shaft, 1/2" ID	
17	006566-01	Flag, Y-Home/Limit	
18	670174-07	Screw, Pan Head Phillips, 6-32 x 7/16"	
19	690034-36	Washer, Flat, #6	
20	007171-01	PCB, Y-Home/Limit, Assembly	
21	700134-01	Spacer, Nylon, .140" ID x .250" OD x .18	B" Lg

*NOTE: Items 1 and 2 should be replaced as a factory built assembly:

007462-01 Carriage, Assembly

Y-Idler Pulley Assembly

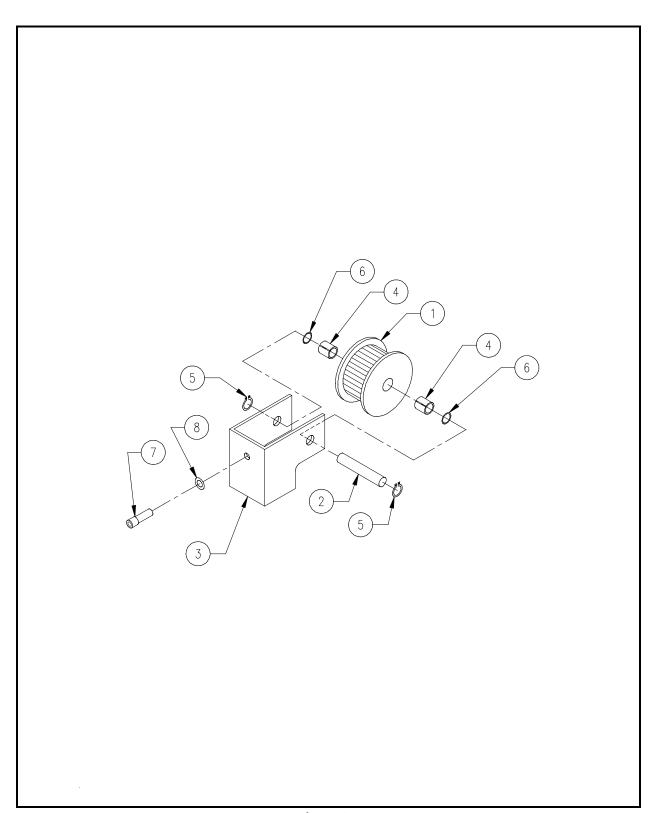


Figure 37

Y-Idler Pulley Assembly (000440-015)

Reference Figure 37

Item No.	Part Number	Item Description Comments
1*	000431-01	Pulley, Y-Idler, 1/5P, 16T
2*	000430-01	Shaft, Y-Idler, 1-1/8" Lg
3*	000424-01	Bracket, Y-Tensioner
4*	344375-04	Bearing, Split-sleeve, 3/16" x 1/4"
5	344378-01	Ring, Retaining, .181 " ID
6	003419-30	Spacer, Shaft, .19" ID x .31" OD x .03" Thick
7	670149-12	Screw, Socket Head Cap, 8-32 x 3/4"
8	690034-38	Washer, Flat, #8
	*NOTE:	Items 1-4 should be replaced as a factory built assembly: 000440-015 Assembly, Pulley, Y-Idler

Right Y-Carriage Assembly

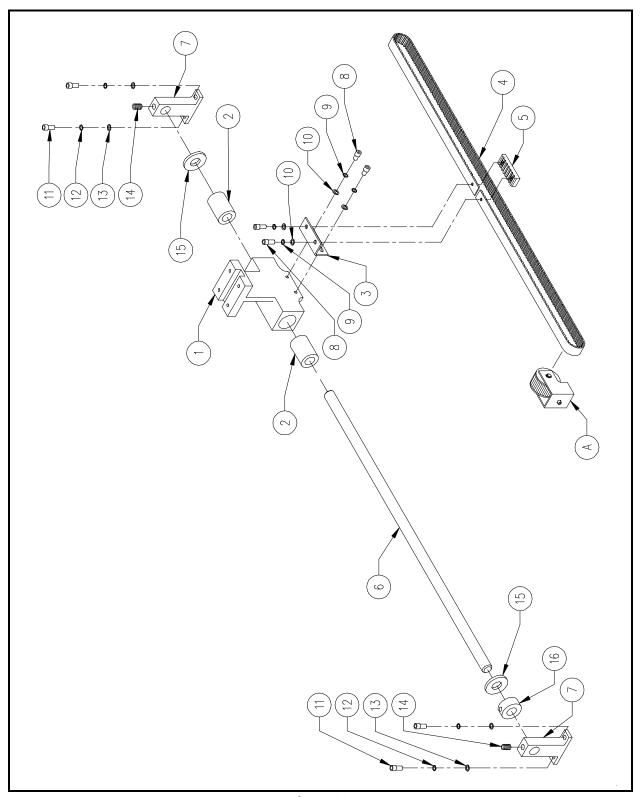


Figure 38

Right Y-Carriage Assembly (007460-01S)

Reference Figure 38

Item No.	Part Number	Item Description	Comments
А	000440-015	Y-Idler Pulley Assembly	See Page 37-1
1*	007454-01	Carriage, Y-Axis	see rage st !
2*	005342-08	Bearing, Sleeve, Frelon	
3	553057-01	Bracket, Clamp, Belt	
4	000376-01	Belt, Y-Drive	
5	000372-01	Clamp, Belt	
6	452749-01	Rail, Y-Axis	
7	000373-01	Support, Rail, Y-Axis	
8	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
9	690033-38	Washer, Lock, Split, #8	
10	690034-38	Washer, Flat, #8	
11	670038-10	Screw, Socket Head Cap, 10-32 x 5/8"	
12	690033-03	Washer, Lock, Split, #10	
13	690034-03	Washer, Flat, #10	
14	674489-09	Screw, Set, Socket, Brass Tip, 10-32 x 3/1	6"
15	342910-01	Washer, Rubber, 1/2 " ID	
16	342872-08	Collar, Shaft, 1/2" ID	

*NOTE: Items 1 and 2 should be replaced as a factory built assembly:

007462-01 Carriage, Assembly

Power Distribution (1 of 3)

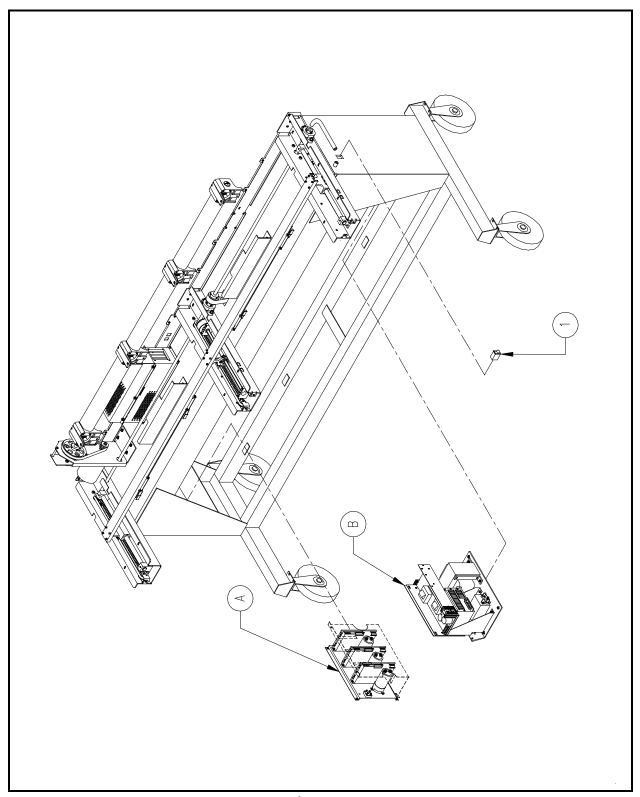


Figure 39

Power Distribution (1 of 3)

Reference Figure 39

Item No.	Part Number	Item Description	Comments
Α	006723-015	Assembly, Motor Driver, XYZ	See Page 40-1
В	007480-01	Power Distribution, 500W	See Page 41-1
1	282292-01	Switch, Rocker, 15A, Non-Lighted	-

Power Distribution (2 of 3)

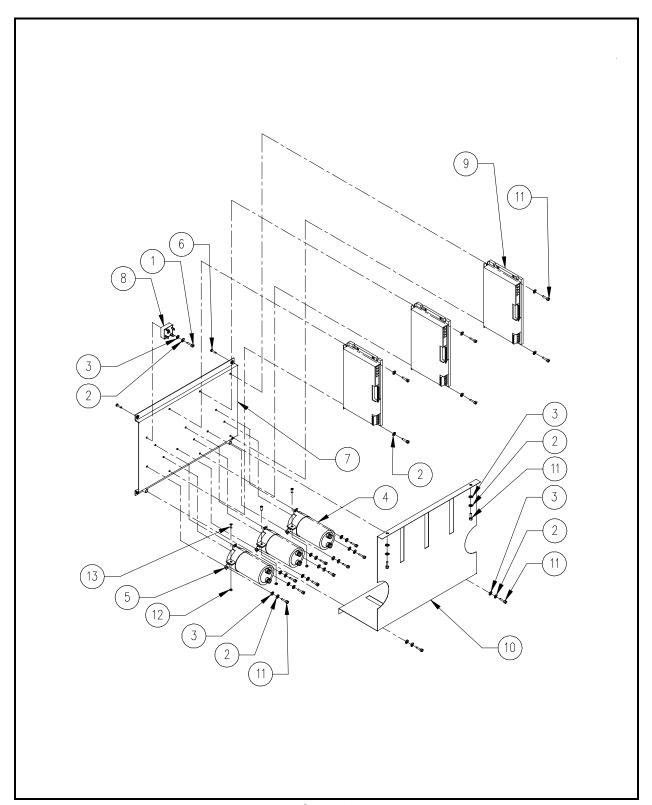


Figure 40

Power Distribution (2 of 3) (006723-015)

Reference Figure 40

Item No.	Part Number	Item Description	Comments
1	670149-10	Screw, Socket Head Cap, 8-32 x 1/2"	
2	690033-38	Washer, Lock, Split, #8	
3	690034-38	Washer, Flat, #8	
4	007687-01	Cap, Electrolytic, 2000uF, 200V	
5	007688-01	Mount, Electrolytic Cap, 2" Diameter	
6	670267-10	Screw, Button Head Cap, 8-32 x 5/8"	
7	006756-01	Mount, Motor Driver	
8	007686-01	Diode, Bridge Rectifier, 25A, 200V	
9	007671-01	Amplifier, Servo	
10	006757-01	Cover, Motor Driver	
11	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
12	680032-36	Nut, Hex, 6-32	
13	670823-12	Screw, Round Head Slotted, 6-32 x 3/4"	

Power Distribution (3 of 3)

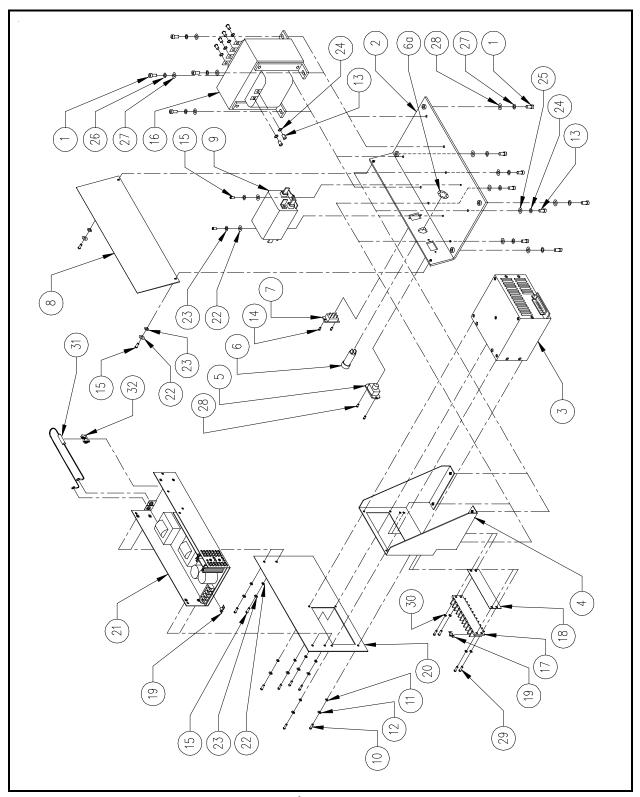


Figure 41

Power Distribution (3 of 3)

Reference Figure 41

Item No.	Part Number	Item Description	Comments
1	670035-12	Screw, Socket Head Cap, 1/4-20 x 1/2"	
2	006133-21	Plate, Mounting, Transformer	
3	005570-01	Power Supply, 265W	
4	006129-01	Bracket, Mounting, Power Supply	
5	006131-01	Module, Power Entry	
6	180742-12	Breaker, Circuit, 10 Amp	(1 1 1 1 1 1 1 1 1 6)
6a	005606.04	Washer, Lock, Internal Star	(Included with item 6)
7	005696-01	Switch, Selector, Voltage	
8	006114-21	Cover, Power Input	
9	006130-01	Filter, EMI	
10	670174-06	Screw, Pan Head Phillips, 6-32 x 3/8"	
11 12	690034-36 690033-36	Washer, Flat, #6	
13	670119-06	Washer, Lock, Split, #6	
14	672982-06	Screw, Pan Head Phillips, 10-32 x 3/8" Screw, Pan Head Phillips, 8-32 x 3/8"	
15	672982-05	Screw, Pan Head Phillips, 8-32 x 5/6 Screw, Pan Head Phillips, 8-32 x 5/16	
16	005695-01	Transformer, 120/240	
17	192298-10	Block, Terminal, Connector Strip	
18	006895-01	Marker, Terminal Strip, 10 Position	
19	190662-05	Jumper, Barrier, Terminal Strip	
20	006320-01	Bracket, Mounting, +24VDC Supply	
21	004912-01	Power Supply, 500W, +24VDC	
22	690034-38	Washer, Flat, #8	
23	690033-38	Washer, Lock, Split, #8	
24	690033-03	Washer, Lock, Split, #10	
25	690034-03	Washer, Flat, #10	
26	690033-04	Washer, Lock, 1/4"	
27	690034-04	Washer, Flat, 1/4"	
29	670174-02	Screw, Pan Head Phillips, 6-32 x 1/2"	
30	690811-36	Washer, Internal Star, #6	
31	007076-01	Load Resistor	
32	007097-01	Clip, Snap-on, Dual "AA"	

Grabber Motor Assembly

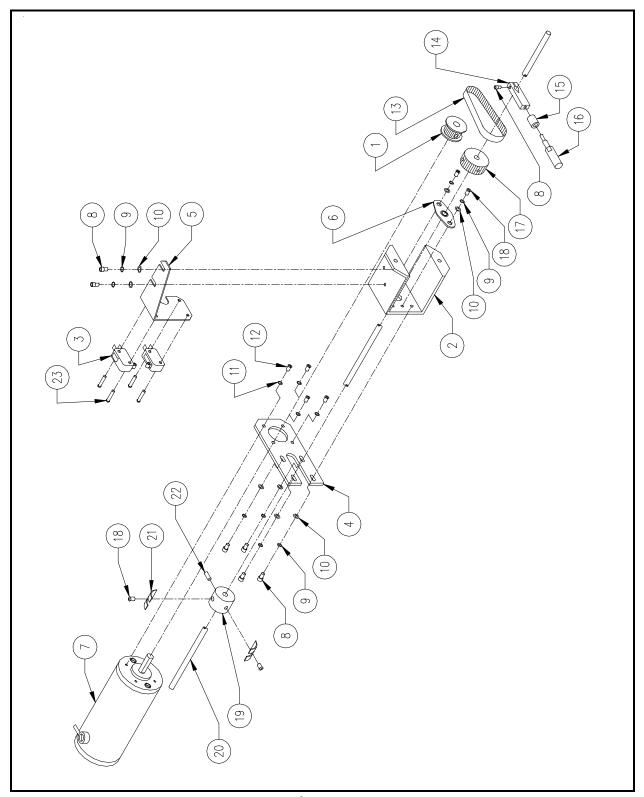


Figure 42

Grabber Motor Assembly

Reference Figure 42

Item No.	Part Number	Item Description	Comments
1	000363-05	Sprocket, 1/5P, 13T, .562" x .281"	
2	003170-01	Mount, Motor, Grabber, Threaded	
3	282911-01	Switch, Limit, Roller	
4	003501-01	Mount, Motor, Grabber	
5	003502-01	Mount, Limit Switch	
6	003525-01	Bearing, Flange, 6mm	
7	002971-01	Motor, Grabber	
8	672018-10	Screw, Socket Head Cap, M4 x 0.7 x 10	Lg
9	690427-04	Washer, Lock, Split, M4	
10	690439-04	Washer, Flat, M4	
11	690033-36	Washer, Lock, Split, #6	
12	670174-08	Screw, Pan Head Phillips, 6-32 x 1/2"	
13	003504-01	Belt, Timing, 39T, 1/5P	
14	003180-01	Arm, Motor Stop	
15	003176-01	Bumper, Motor Stop	
16	003156-01	Handle, Stop, Motor	
17	003503-01	Sprocket, 1/5P, 20T	
18	003509-08	Screw, Button Head Socket, M4 x 0.7 x 8	B Lg
19	003537-01	Mount, Limit Switch Stop	
20	003178-01	Shaft, Pivot, Grabber	
21	003538-01	Stop, Limit Switch	
22	001960-08	Screw, Set, Socket Head, M4 x 0.7 x 8 Lg	•
23	671855-12	Screw, Pan Head Slotted, M3 x 0.5 x 12	Lg

Cap Frame Mount Assembly

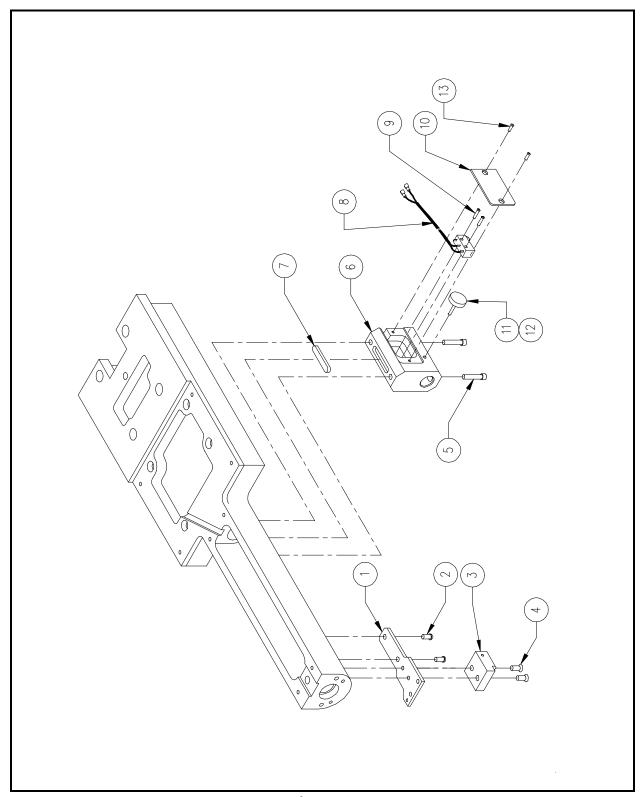


Figure 43

Cap Frame Mount Assembly

Reference Figure 43

Item No.	Part Number	Item Description Comments
1	006526-01	Bracket, Picker
2	003509-08	Screw, Button Head Socket, M4 x 0.7 x 8 Lg
3	006523-01	Mount, Dove Tail, Cap Frame
4	001926-12	Screw, Flat Head Socket, M4 x 0.7 x 12 Lg
5	672018-20	Screw, Socket Head Cap, M4 x 0.7 x 20 Lg
6*	009013-01	Bracket, Cap Frame, Rear
7	006525-01	Key, Shaft, 6mm x 6mm x 32mm
8*	009033-01	Cap Frame Switch, Assembly
9*	003122-10	Screw, Pan Head Phillips, M2 x 0.4 x 10 Lg
10*	009014-01	Cover, Cap Frame Bracket
11	671852-10	Screw, Socket Head Cap, M5 x 0.8 x 10 Lg
12	006538-01	Knob, Knurled, M5, Black
13*	003136-06	Screw, Button Head Socket, M3 x 0.5 x 6 Lg

*NOTE: Items 6, 8-10 and 13 should be replaced as a factory built assembly:

009075-01 Bracket, Cap Frame, Assembly

Harness Assembly (1 of 7) (Head 4)

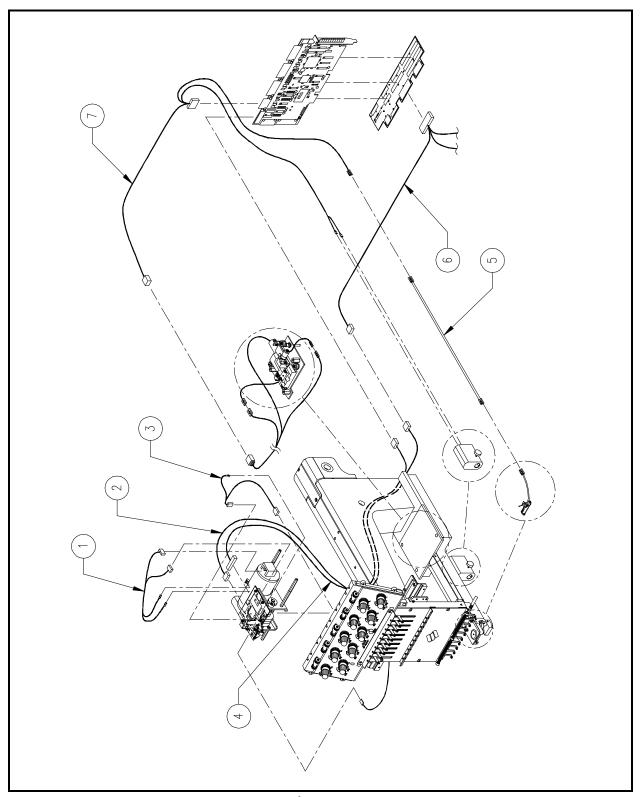


Figure 44

Harness Assembly (1 of 7) (Head 4)

Reference Figure 44

Item No.	Part Number	Item Description	Comments
1	006932-01	Harness, Motor, Color Change	
2	006788-01	Harness, Power, Color Change	
3	006582-01	Harness, Thread Break	
4	005821-01	Harness, 18 Color Interface	
5	005839-01	Harness, Bed, Under Thread Control	
6	006125-01	Harness, Power	
7	006581-01	Harness, Head 4	

Harness Assembly (2 of 7) (Head 3)

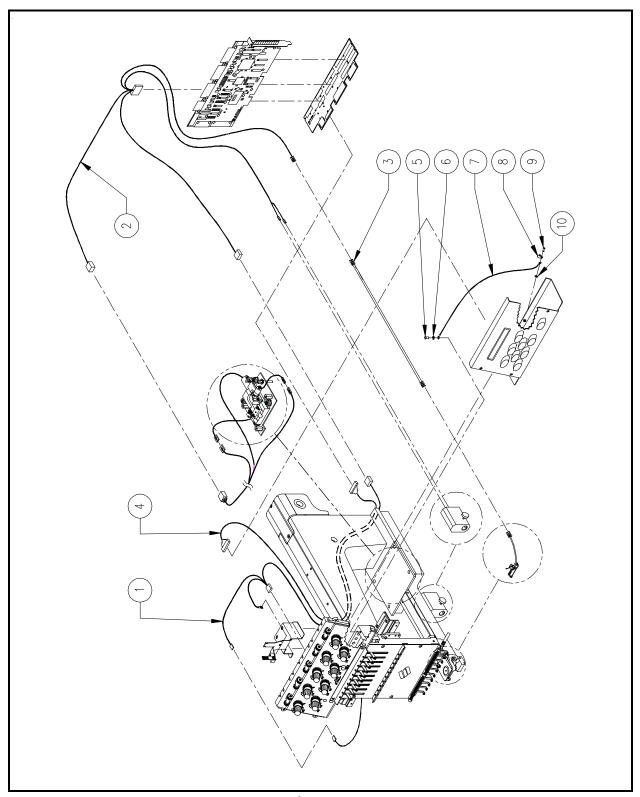


Figure 45

Harness Assembly (2 of 7) (Head 3)

Reference Figure 45

Item No.	Part Number	Item Description Comments
		<u> </u>
1	006583-01	Harness, Thread Break, Heads 1,2,3
2	006580-03	Harness, Trunk (Hd 3)
3	005839-01	Harness, Bed, Under Thread Control
4	006769-01	Harness, Keyboard
5	003509-08	Screw, Button Head Socket, M4 x 0.7 x 8 Lg
6	690713-38	Washer, External Star, #8
7	004720-02	Cable, Ground
8	340743-07	Clamp, Cable, 1/2"
9	003509-10	Screw, Button Head Socket, M4 x 0.7 x 10 Lg
10	690713-38	Washer, Lock, External Star, #8

Harness Assembly (3 of 7) (Head 2)

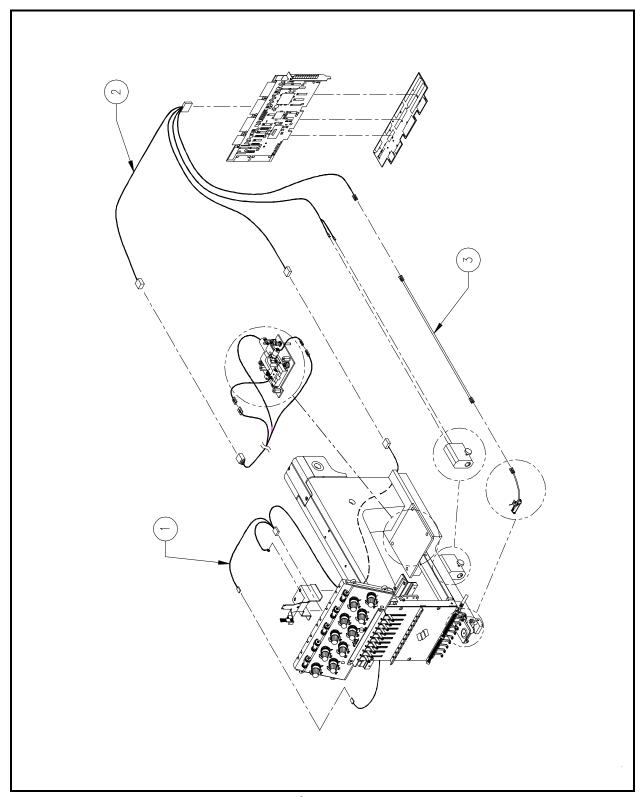


Figure 46

Harness Assembly (3 of 7) (Head 2)

Reference Figure 46

Item No.	Part Number	Item Description	Comments
1		Harness, Thread Break, Heads 1,2,3	
2	006580-02	Harness, Trunk (Hd 2)	
3	005839-01	Harness, Bed, Under Thread Control	

Harness Assembly (4 of 7) (Head 1)

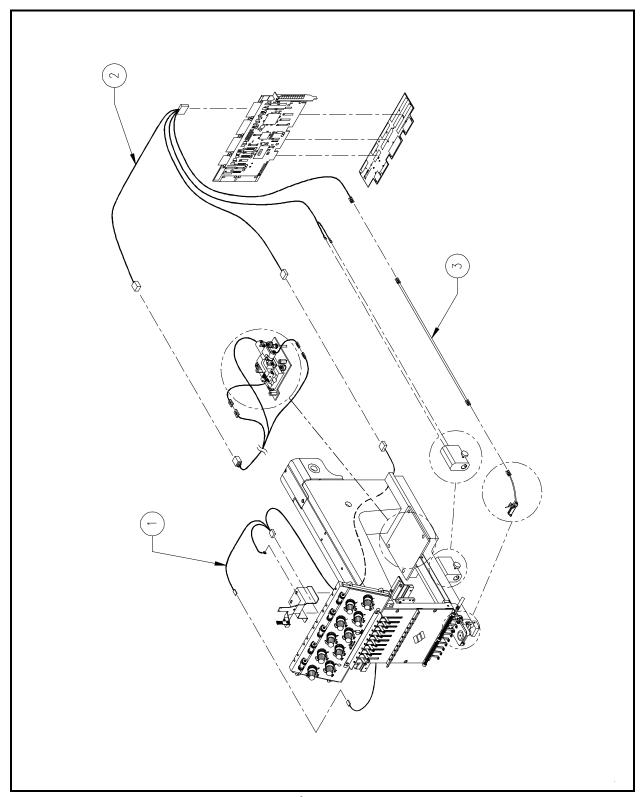


Figure 47

Harness Assembly (4 of 7) (Head 1)

Reference Figure 47

Item	Part	Item	Comments
No.	Number	Description	
1 2 3	006580-01	Harness, Thread Break, Heads 1,2,3 Harness, Trunk (Hd 1) Harness, Bed, Under Thread Control	

Harness Assembly (5 of 7) (General)

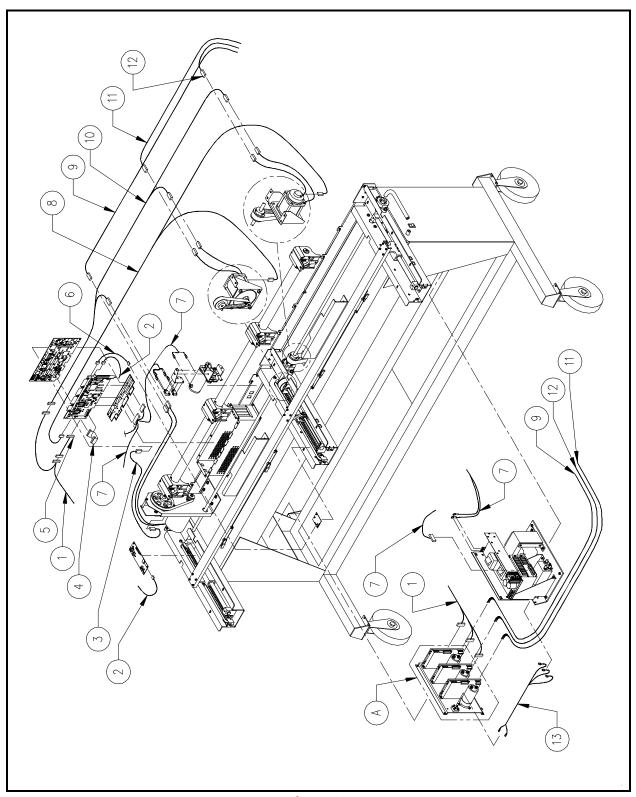


Figure 48

Harness Assembly (5 of 7) (General)

Reference Figure 48

Item No.	Part Number	Item Description	Comments
А	006723-015	XYZ Motor Driver Assembly	(See Page 40-1)
1	006783-01	Harness, Command/Hall Assembly	-
2	006319-01	Harness, Y-Home	
3	005423-01	Harness, Z-Encoder, Assembly	
4	004722-01	Harness, Jumper, CPU/XYZ	
5	006587-01	Harness, Command Amp XYZ	
6	006318-01	Harness, X-Home, Limit	
7	007476-01	Cable, DC Power	
8	006586-01	Harness, Hall, Switch Motor XYZ	
9	006828-01	Harness, Motor Driver, ABC	
10	006829-01	Harness, Motor Driver, XYZ	
11	006828-03	Harness, Motor Driver, ABC	
12	006828-02	Harness, Motor Driver, ABC	
13	006585-01	Harness, Amp Power, 110 VAC	

Harness Assembly (6 of 7) (XYZ Motor Drive)

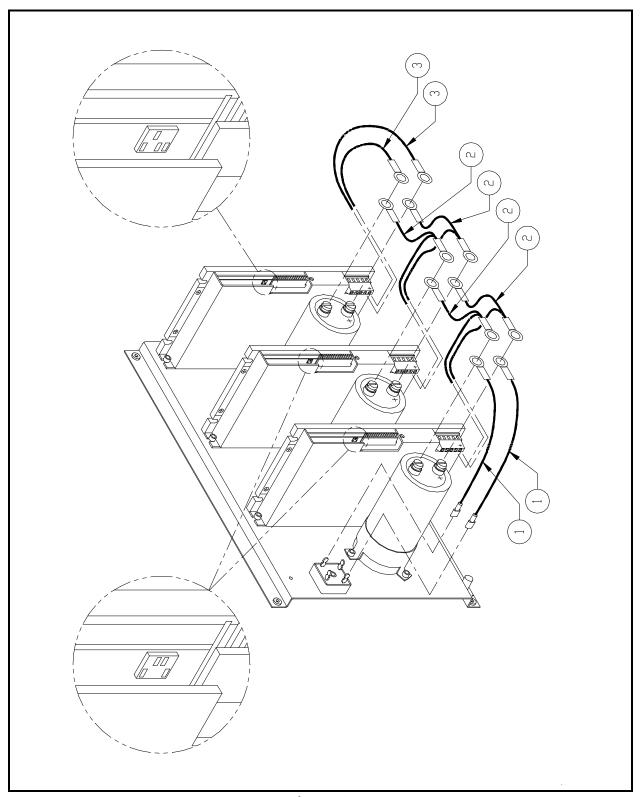


Figure 49

Harness Assembly (6 of 7) (XYZ Motor Drive) **Reference Figure 49 Item Part Item** Comments Number Description No. Cable, Amplifier, #1 1 006766-01 Cable, Amplifier, #2 2 006767-01 Cable, Amplifier, #3 3 006768-01

Harness Assembly (7 of 7) (AC Power Distribution)

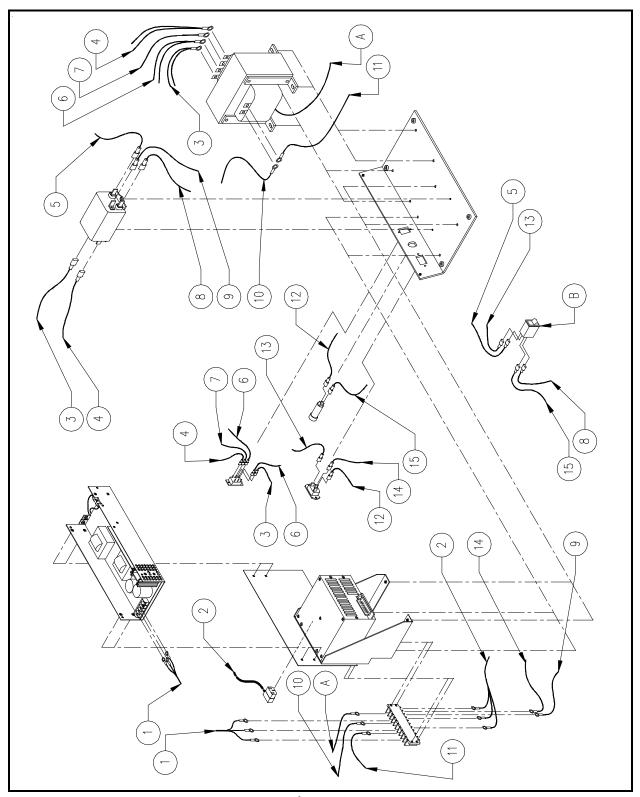


Figure 50

Harness Assembly (7 of 7) (AC Power Distribution) Reference Figure 50

Item No.	Part Number	Item Description	Comments
А		Grn/Yel Ground Wire	(Part of Transformer)
В	282292-01	Switch, Rocker, 15A, Non-Lighted	(See Page 39-1)
1	006876-01	Cable No. 1	, ,
2	006921-01	Cord, Power Supply	
3	006878-01	Cable No. 6	
4	006877-01	Cable No. 5	
5	006881-01	Cable No. 9	
6	006879-01	Cable No. 7	
7	006876-01	Cable No. 4	
8	006885-01	Cable No. 13	
9	006884-01	Cable No. 12	
10	006875-01	Cable No. 3	
11	006874-01	Cable No. 2	
12	006886-01	Cable No. 14	
13	006880-01	Cable No. 8	
14	006883-01	Cable No. 11	
15	006882-01	Cable No. 10	

Melco Cap Frame Assembly

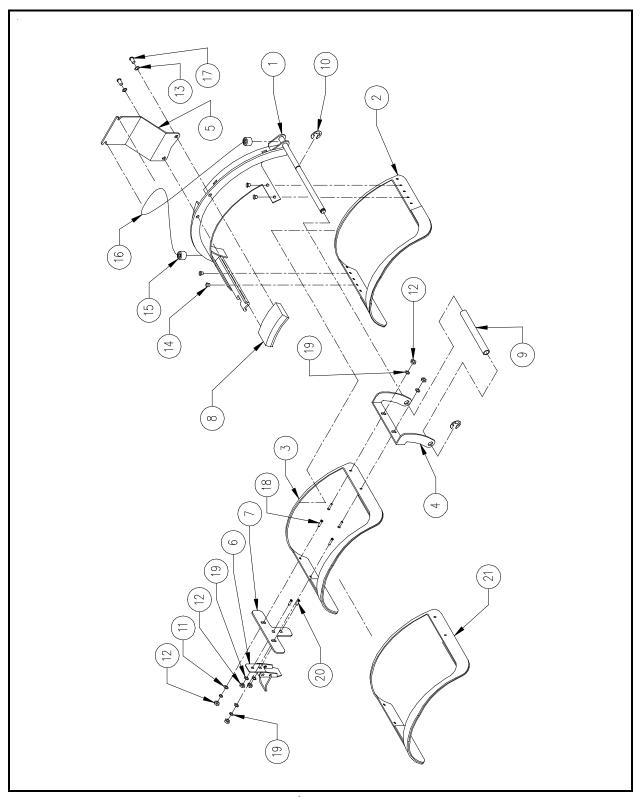


Figure 51

Melco Cap Frame Assembly (006674-01)

Reference Figure 51

Item No.	Part Number	Item Description	Comments
1	004938-01	Base, Cap Frame, Assembly	
2*	006010-01	Frame, Lower, W/Rubber, 6-Panel	
3*	005949-01	Strap, Clamping, 72mm, 6-Panel	
4*	002629-01	Bracket, Hinge	
5	005071-01	Holder, Cord, Visor Clamp	
6*	005487-01	Catch, Pull	
7*	005486-01	Bracket, Latch	
8	004904-01	Block, Locator, Brim	
9	002632-01	Spacer	
10	004240-01	Ring, Retainer, E-Style	
11*	690439-03	Washer, Flat, M3	
12*	680430-03	Nut, Hex, M3	
13	690033-36	Washer, Lock, Split, #6	
14	004963-01	Screw, Special, Cap Frame	
15	005068-01	Terminal, Shock Cord	
16	005073-01	Cord, Shock, Cap Frame	
17	670174-06	Screw, Pan Head, Phillips, 6-32 x 3/8"	
18*	006019-01	Screw, Flat Head Phillips, M3 x 0.5 x 8 Lg	}
19*	003128-03	Washer, Lock, Split, M3	
20*	005934-01	Screw, Flat Head Phillips, M3 x 0.5 x 6 Lg)
21*	005948-01	Strap, Clamping, 82mm, 6-Panel	

*NOTE:

Items 3, 4, 6, 7, 11, 12, 18, 19 and 20 should be replaced as a factory built assembly: 007199-01 Strap, Clamping, 72mm, 6-Panel, Assembly

Items 4, 6, 7, 11, 12, 18, 19, 20 and 21 should be replaced as a factory built assembly: 007198-01 Strap, Clamping, 82mm, 6-Panel, Assembly

Item 2, 007198-01, 007199-01 are included in: 006674-01 Capframe, Adjustable, 6-Panel

Cap Frame Drive Assembly

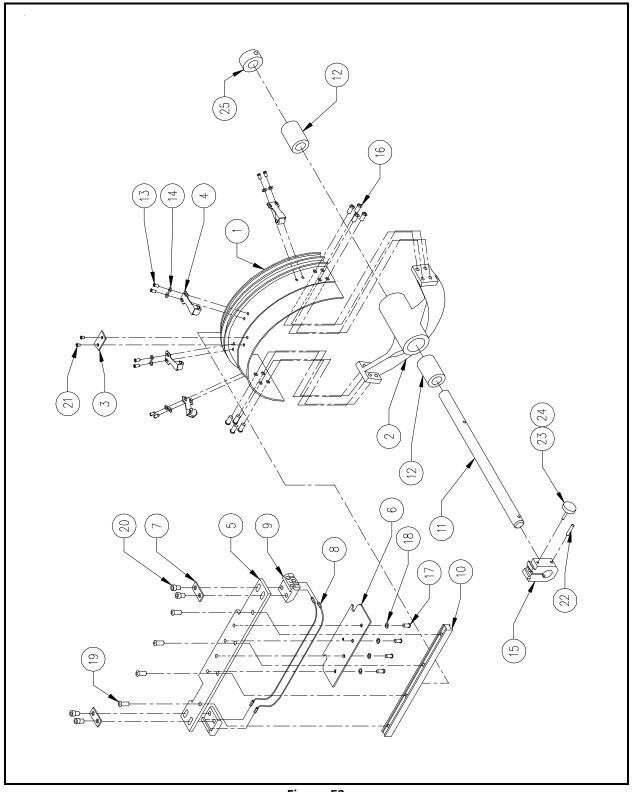


Figure 52

Cap Frame Drive Assembly

Reference Figure 52

Item No.	Part Number	Item Description	Comments
1*	452732-01	Ring, Drive, Cap Frame	
2*	006496-01	Hub, Cap Driver, Phase II	
3*	552912-01	Locator, Cap Frame	
4*	004229-01	Clip, Roller, Cap Frame Driver, Assembly	
5*	454861-01	Bracket, Drive	
6*	554862-01	Mount, Drive Ring	
7*	552915-01	Washer, Flat, Rectangle	
8*	402913-01	Cable, Drive Ring	
9*	452916-01	Bracket, Cable	
10*	442917-01	Bar, Guide	
11*	006522-01	Shaft, Cap Frame	
12*	005342-08	Bearing, Sleeve, Frelon	
13*	670131-03	Screw, Pan Head Phillips, 4-40 x 3/16"	
14*	690034-34	Washer, Flat, #4	
15*	006521-01	Mount, Male, Cap Frame	
16*	672982-06	Screw, Pan Head Phillips, 8-32 x 3/8"	
17	670174-04	Screw, Pan Head Phillips, 6-32 x 1/4"	
18	690033-36	Washer, Lock, Split, #6	
19*	670267-06	Screw, Button Head Cap, 8-32 x 3/8"	
20*	670149-06	Screw, Socket Head Cap, 8-32 x 3/8"	
21*	670131-02	Screw, Pan Head Phillips, 4-40 x 1/8"	
22	660830-10	Pin, Groove, 1/8" OD x 7/8" Lg	
23*	671852-16	Screw, Socket Head Cap, M5 x 0.8 x 16 L	-g
24*	006538-01	Knob, Knurled, M5, Black	
25	342872-08	Collar, Shaft, 1/2" ID	

*NOTE: Items 1-16 and 19-21 should be replaced as a factory built assembly:

006541-01 Ring, Drive, Adv, Assembly

Items 23 and 24 should be replaced as a factory built assembly:

007401-01 Screw, Thumb, 16mm Lg, Assembly

Sash Frame Assembly

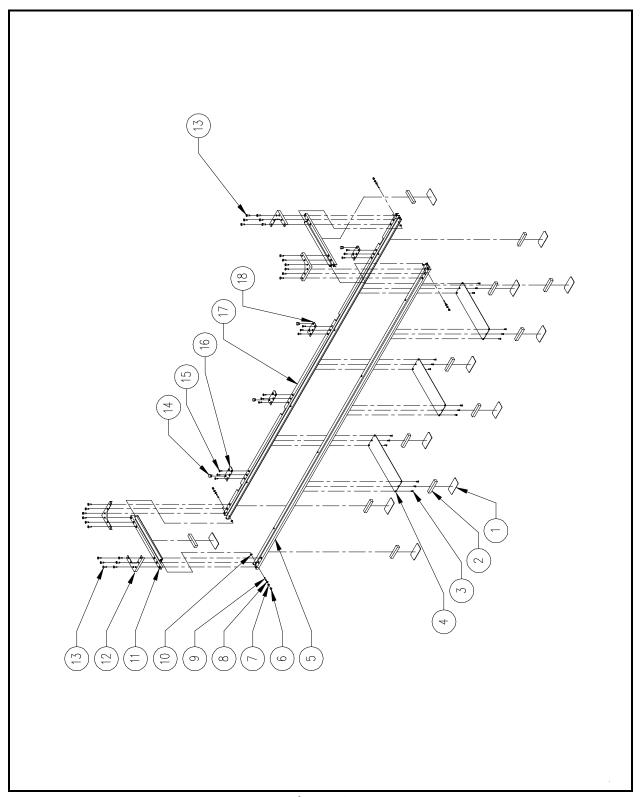


Figure 53

Sash Frame Assembly

Reference Figure 53

Item No.	Part Number	Item Description Comments
1	006897-01	Pad, Sliding, Sash Frame
2	006896-01	Insert, Wood, Sash Frame
3	006910-03	Screw, Small Head, Flat, M4 x 0.7 x 8 Lg
4	006698-01	Brace, Sash Frame
5	006694-01	Front, Frame, Sash
6	006913-01	Cover, Cup, Hex, M5
7	680430-05	Nut, Hex, M5
8	690713-03	Washer, Lock, External Star, #10
9	006911-02	Bolt, Stud, M5 x 0.8 x 20 Lg
10	690630-02	Washer, Precision, #10, H=.078"
11	006693-01	Side, Frame, Sash
12	006697-01	Bracket, Corner, Sash Frame
13	002637-12	Screw, Cap, Low Head, M5 x 0.8 x 12 Lg
14	006909-01	Screw, Retractable, #8-32
15	006912-03	Screw, Cup, Low Head, M4 x 0.7 x 10 Lg
16	007456-01	Bracket, Sash Frame, Right Hand
17	006692-01	Back, Frame, Sash
18	007456-02	Bracket, Sash Frame, Left Hand

Disk Drive Assembly

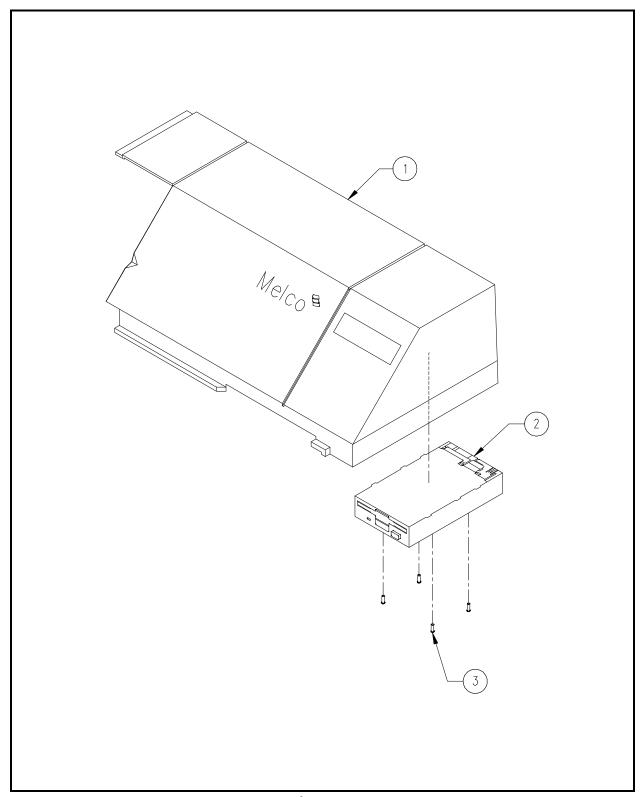


Figure 54

Disk Drive Assembly

Reference Figure 54

Item No.	Part Number	Item Description Comments	<u> </u>
1 2		Cover, #1, EMC 10D/4 Disk Drive, Floppy, 1.44MB	
3		Screw, Pan Head Slotted, M3 x 0.5 x 8 Lg	

Harness Assembly - Disk Drive Option

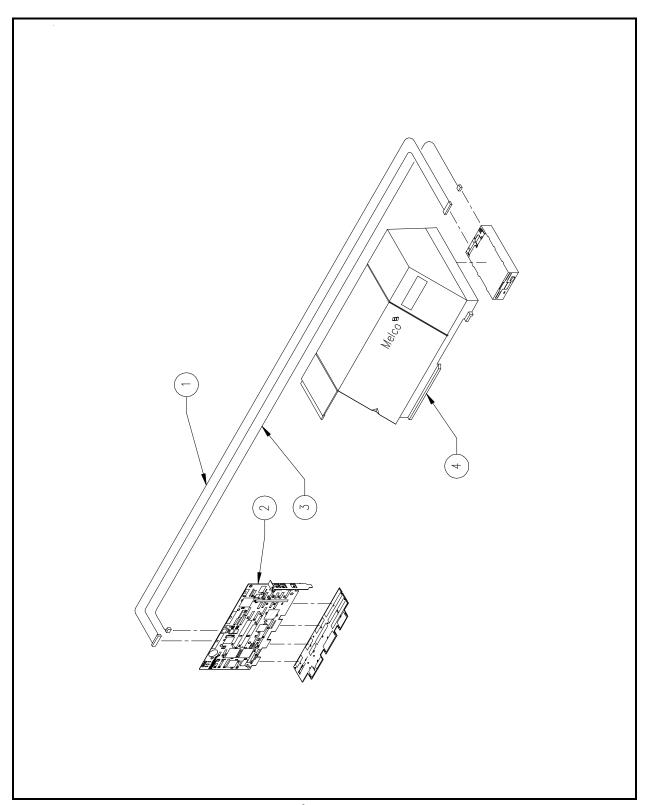


Figure 55

Harness Assembly - Disk Drive Option

Reference Figure 55

Item No.	Part Number	Item Description	Comments
1	005166.01	Cable Data Dick Drive	
I	005166-01	Cable, Data, Disk Drive	
2	006550-01	PCB, DSP188/Disk, Assembly	
3	005165-01	Cable, Power, Disk Drive	
4	006893-01	Cover, #1, EMC 10D/4	